# INDEX

Eighty-eighth Quarto Volume-January 1, 1930, to June 30, 1930

# **AUTHORS**

Adams, B. B., 392 Aishton, R. H., 1454-D64, 1454-D81 Alexander, L. B., 1412 Anderson, R. W., 1419 Arthurton, Alfred W., 720, 1523 Atterbury, W. W., 1071 Austin, William, 1183 Averell, Elson, 158

Baston, G. E., 1324
Battle, Col. W. S., Jr., 1320
Bebb, J. E., 1412
Bender, F. W., 1174
Bernet, J. J., 10, 13
Bockus, C. E., 1134
Borland, W. P., 1454-D115
Boshkoff, Luben, 125
Boyd, George E., 52
Boyden, R. C., 715
Brittingham, Smith R., 1318
Brown, A. R., 1427
Budd, Ralph, 11, 12, 14
Budd, R. W., 1036
Bull, Arthur A., 521
Butler, Charles T., 609

Chipman, Paul, 1308
Cole, Whitefoord R., 9, 11, 13
Cook, C. C., 1125
Coors, W. F., 825
Corfield, R. J., 1058
Cotterill, Charles E., 1070
Coughlan, R. E., 1381
Crowson, G. M., 1318
Croze, Charles E., 1293
Curtis, D. C., 593

Dandridge, C. G., 695
Davidson, W., 1454-D79
Day, Paul H., 1454-D139
DeLecca, Vincente Mx., 120
Denney, C. E., 10, 12, 14, 15, 1454-D80
Dickson, J., 739
Donnelly, Charles, 628-D157
Down, S. G., 347
Downs, I. A., 9, 11, 15
Duellet, D. O., 297
Duer, J. V. B., 674
Dunn, B. W., 836
Dunn, John H., 109, 1570
Dunn, Samuel O., 1132
Duvall, W. A., 283, 531
Dyer, Gua W., 628-D158

Edwards, T. O., 1117 Emery, John C., 102

Ferguson, A. D., 291
Ferrer, M. J., 128
Fisher, Charles E., 934
Filetcher, Judge R. V., 1114
Foest-Monshoff, Rud., 123
Foote, J. W., 913
Fox, J. S., 1121
Franco, J. J., 49
Fraser, W. H., 119, 1329

Galloway, Charles W., 1071, 1473
Genest, Dr. Reichsbahnrat, 120
Gieslingen, Dr. A. Giesl, 685
Giovene, Nestore, 121
Goettler, I., 125
Goldthwaite, C. F., 651
Gorman, J. E., 10, 13, 15
Gormley, M. J., 628-D57, 628-D97, 1548-D15
Grammer, P. L., 1548-D36
Gray, Carl R., Jr., 1035
Green, C. W., 1123

Haggander, G. A., 756
Hardin, F. H., 1134
Hargest, W. J., 107
Harriman, Norman F., 206, 253
Harris, A. B. B., 628-D176
Hichborn, George F., 745
Higgins, P. P., 128
Hite, F. D., 529
Hobbs, F. S., 310
Holtmon, O., 124
Horn, Frank J., 531, 740
Houston, George H., 829
Howson, Elmer T., 19
Hudson, Gardner C., 94
Huffman, T. E., 1270
Hughes, Adrian, Jr., 298

Ingersoll, G. B., 289

James, I. B., 1294 Japiot, Marcel, 427 Johnson, Alba B., 17 Johnston, C. E., 1127

Kahn, Albert, 1021
Keeney, William F., Jr., 392
Kenrick, R. S., 116
Kieg, J. R., 1123
Kimball, D. H., 1519
Kimball, R. L., 911
Kingston, H. H., Jr., 259
Kirkbride, William H., 1458
Kleine, R. L., 1454-D118
Konsberg, A. V., 609
Koyle, C. H., 1380
Kraeger, F. W., 85
Kurn, J. M., 10, 12, 14, 16

Lacher, Walter S., 43, 1553
Lamont, Hon. Robert P., 7
Lane, H. F., 243, 440, 607, 871, 972, 1009, 1139
Latta, A. F., 1454-D90
Lavis, Fred, 128
Layng, Charles, 35
Leigh, H. R., 310
Lewis, E. I., 1068
Lemen, R. W., 1539, 1541
Lewis, H. W., 628-D8
Linnehan, W. L., 1315
Lisman, F. J., 231, 337
Lorenz, M. O., 690
Lyne, James G., 46, 63, 74

McCredie, William L., 1539
McDonald, H. P., 310, 311, 531
McGee, P. A., 1060
McGough, W. N., 1123
McManamy, Frank, 1548-D114'
MacAnanny, J. R., 1034
MacLean, J. D., 387
Marriott, G. W., 518
Mathews, C. H., Jr., 1541
Mattos, F. D., 385
Mayer, P. C., 1364
Meyers, R. E., 1241
Middleton, R. J., 385
Miller, J. V., 1313
Milner, B. B., 127
Molis, B. W., 332
Monroe, Lewis A., 1521
Mooney, James F., 1527
Mooney, James F., 1527
Mooney, J. R., 595
Moran, A. J., 1120
Morgan, H. H., 595
Morkill, Geoffrey W., 126
Morse, C. A., 969

Needles, A. C., 11, 12, 14 Neff, P. J., 1036 Newcomet, H. E., 628-D7 Newell, J. W., 778 Nicholas, S., 129 Niermeyer, W. J., 124 Oehler, Alfred G., 41, 1566 Ogden, George D., 1027

Pack, A. G., 1548-D167 Parmelee, Julius H., 23 Partl, Dr. V., 123 Peck, C. B., 39, 99 Peil, F. A., 740, 1541 Pelley, J. J., 11, 12, 13, 14 Peschaud, M., 121 Pollard, A. P., 1454-D160 Pruzsinsky, Dr. G., 124 Pyeatt, J. S., 1131

Ray, Hal S., 1335 Rhoads, J. J., 484 Rodenbaugh, H. N., 1177 Rolston, H. W., 1454-D140 Rubens, H. S., 128

Sargent, F. W., 16
Scandrett, H. A., 9, 13, 15
Schlacks, W. J., 980
Schon, Pierre, 512
Schubert, J. H., 141
Scruby, T. F., 476
Sheehan, F. C., 1126
Sheehan, W. M., 867
Sheehan, W. M., 867
Shepard, F. H., 544
Shoup, Paul, 10, 12, 14
Smart, G. E., 1454-D63
Snow, Franklin, 655
Snyder, George L., 698
Sorzano, C. Tejada, 126
Steel, David A., 69
Steinberger, M. F., 1035, 1293, 1540
Storey, W. B., 10, 12

Taft, Walter J., 78
Taylor, C. A., 468
Taylor, G. W., 655
Taylor, H. G., 1590
Taylor, Morris P., 561
Terkelsen, E., 123
Texada, G. P., 1273
Tobey, C. B., 1454-D144
Tosh, A. C., 311, 740
Towner, M. E., 1073
Treiber, O. D., 731
Truman, M. G., 257
Turneaure, Dean F. E., 628-D147
Turney, J. R., 1035

Vauclain, Samuel M., 1548-D140

Waddell, J. A. L.. 129
Wagner, Thomas H., 1124
Walker, H. M., 116, 1294
Walker, John B., 725, 1036, 1541
Warne, C. C., 1063
Welsh, T. J., 609
Williams, Harry G., 1285
Williams, William H., 916
Williamson, F. E., 10, 12, 14
Wood, G. W., 1035
Woodruff, R. E., 1178
Woodruff, R. E., 1178
Woodson, E. R., 1454-D87
Woodworth, C. T., 1293
Woollen, A. H., 378
Wright, G. I., 761
Wright, Roy V., 1075
Wyant, Leroy, 373

Zane, W. F., 812 Zawisza, Dr. Waclaw, 122

# INDEX

Eighty-eighth Quarto Volume-January 1, 1930, to June 30, 1930

# **AUTHORS**

Adams, B. B., 392 Aishton, R. H., 1454-D64, 1454-D81 Alexander, L. B., 1412 Anderson, R. W., 1419 Arthurton, Alfred W., 720, 1523 Atterbury, W. W., 1071 Austin, William, 1183 Averell, Elson, 158

Baston, G. E., 1324
Battle, Col. W. S., Jr., 1320
Bebb, J. E., 1412
Bender, F. W., 1174
Bernet, J. J., 10, 13
Bockus, C. E., 1134
Borland, W. P., 1454-D115
Boshkoff, Luben, 125
Boyd, George E., 52
Boyden, R. C., 715
Brittingham, Smith R., 1318
Brown, A. R., 1427
Budd, Ralph, 11, 12, 14
Budd, R. W., 1036
Bull, Arthur A., 521
Butler, Charles T., 609

Chipman, Paul, 1308
Cole, Whitefoord R., 9, 11, 13
Cook, C. C., 1125
Coors, W. F., 825
Corfield, R. J., 1058
Cotterill, Charles E., 1070
Coughlan, R. E., 1381
Crowson, G. M., 1318
Croze, Charles E., 1293
Curtis, D. C., 593

Dandridge, C. G., 695
Davidson, W., 1454-D79
Day, Paul H., 1454-D139
DeLecca, Vincente Mx., 120
Denney, C. E., 10, 12, 14, 15, 1454-D80
Dickson, J., 739
Donnelly, Charles, 628-D157
Down, S. G., 347
Downs, I. A., 9, 11, 15
Duellet, D. O., 297
Duer, J. V. B., 674
Dunn, B. W., 836
Dunn, John H., 109, 1570
Dunn, Samuel O., 1132
Duvall, W. A., 283, 531
Dyer, Gua W., 628-D158

Edwards, T. O., 1117 Emery, John C., 102

Ferguson, A. D., 291
Ferrer, M. J., 128
Fisher, Charles E., 934
Filetcher, Judge R. V., 1114
Foest-Monshoff, Rud., 123
Foote, J. W., 913
Fox, J. S., 1121
Franco, J. J., 49
Fraser, W. H., 119, 1329

Galloway, Charles W., 1071, 1473
Genest, Dr. Reichsbahnrat, 120
Gieslingen, Dr. A. Giesl, 685
Giovene, Nestore, 121
Goettler, I., 125
Goldthwaite, C. F., 651
Gorman, J. E., 10, 13, 15
Gormley, M. J., 628-D57, 628-D97, 1548-D15
Grammer, P. L., 1548-D36
Gray, Carl R., Jr., 1035
Green, C. W., 1123

Haggander, G. A., 756
Hardin, F. H., 1134
Hargest, W. J., 107
Harriman, Norman F., 206, 253
Harris, A. B. B., 628-D176
Hichborn, George F., 745
Higgins, P. P., 128
Hite, F. D., 529
Hobbs, F. S., 310
Holtmon, O., 124
Horn, Frank J., 531, 740
Houston, George H., 829
Howson, Elmer T., 19
Hudson, Gardner C., 94
Huffman, T. E., 1270
Hughes, Adrian, Jr., 298

Ingersoll, G. B., 289

James, I. B., 1294 Japiot, Marcel, 427 Johnson, Alba B., 17 Johnston, C. E., 1127

Kahn, Albert, 1021
Keeney, William F., Jr., 392
Kenrick, R. S., 116
Kieg, J. R., 1123
Kimball, D. H., 1519
Kimball, R. L., 911
Kingston, H. H., Jr., 259
Kirkbride, William H., 1458
Kleine, R. L., 1454-D118
Konsberg, A. V., 609
Koyle, C. H., 1380
Kraeger, F. W., 85
Kurn, J. M., 10, 12, 14, 16

Lacher, Walter S., 43, 1553
Lamont, Hon. Robert P., 7
Lane, H. F., 243, 440, 607, 871, 972, 1009, 1139
Latta, A. F., 1454-D90
Lavis, Fred, 128
Layng, Charles, 35
Leigh, H. R., 310
Lewis, E. I., 1068
Lemen, R. W., 1539, 1541
Lewis, H. W., 628-D8
Linnehan, W. L., 1315
Lisman, F. J., 231, 337
Lorenz, M. O., 690
Lyne, James G., 46, 63, 74

McCredie, William L., 1539
McDonald, H. P., 310, 311, 531
McGee, P. A., 1060
McGough, W. N., 1123
McManamy, Frank, 1548-D114'
MacAnanny, J. R., 1034
MacLean, J. D., 387
Marriott, G. W., 518
Mathews, C. H., Jr., 1541
Mattos, F. D., 385
Mayer, P. C., 1364
Meyers, R. E., 1241
Middleton, R. J., 385
Miller, J. V., 1313
Milner, B. B., 127
Molis, B. W., 332
Monroe, Lewis A., 1521
Mooney, James F., 1527
Mooney, James F., 1527
Mooney, J. R., 595
Moran, A. J., 1120
Morgan, H. H., 595
Morkill, Geoffrey W., 126
Morse, C. A., 969

Needles, A. C., 11, 12, 14 Neff, P. J., 1036 Newcomet, H. E., 628-D7 Newell, J. W., 778 Nicholas, S., 129 Niermeyer, W. J., 124 Oehler, Alfred G., 41, 1566 Ogden, George D., 1027

Pack, A. G., 1548-D167 Parmelee, Julius H., 23 Partl, Dr. V., 123 Peck, C. B., 39, 99 Peil, F. A., 740, 1541 Pelley, J. J., 11, 12, 13, 14 Peschaud, M., 121 Pollard, A. P., 1454-D160 Pruzsinsky, Dr. G., 124 Pyeatt, J. S., 1131

Ray, Hal S., 1335 Rhoads, J. J., 484 Rodenbaugh, H. N., 1177 Rolston, H. W., 1454-D140 Rubens, H. S., 128

Sargent, F. W., 16
Scandrett, H. A., 9, 13, 15
Schlacks, W. J., 980
Schon, Pierre, 512
Schubert, J. H., 141
Scruby, T. F., 476
Sheehan, F. C., 1126
Sheehan, W. M., 867
Sheehan, W. M., 867
Shepard, F. H., 544
Shoup, Paul, 10, 12, 14
Smart, G. E., 1454-D63
Snow, Franklin, 655
Snyder, George L., 698
Sorzano, C. Tejada, 126
Steel, David A., 69
Steinberger, M. F., 1035, 1293, 1540
Storey, W. B., 10, 12

Taft, Walter J., 78
Taylor, C. A., 468
Taylor, G. W., 655
Taylor, H. G., 1590
Taylor, Morris P., 561
Terkelsen, E., 123
Texada, G. P., 1273
Tobey, C. B., 1454-D144
Tosh, A. C., 311, 740
Towner, M. E., 1073
Treiber, O. D., 731
Truman, M. G., 257
Turneaure, Dean F. E., 628-D147
Turney, J. R., 1035

Vauclain, Samuel M., 1548-D140

Waddell, J. A. L.. 129
Wagner, Thomas H., 1124
Walker, H. M., 116, 1294
Walker, John B., 725, 1036, 1541
Warne, C. C., 1063
Welsh, T. J., 609
Williams, Harry G., 1285
Williams, William H., 916
Williamson, F. E., 10, 12, 14
Wood, G. W., 1035
Woodruff, R. E., 1178
Woodruff, R. E., 1178
Woodson, E. R., 1454-D87
Woodworth, C. T., 1293
Woollen, A. H., 378
Wright, G. I., 761
Wright, Roy V., 1075
Wyant, Leroy, 373

Zane, W. F., 812 Zawisza, Dr. Waclaw, 122

# GENERAL INDEX

[Illustrated articles are indicated thus\*; Editorials thust; Letters to Editor thus\*]

A. C. F. Model 83
A. C. Heat-Range Spark Plugs, Accidents:
Canadian Railroads in 1929, 888
Casualties, First Half 1929, 250, Year, 937
Claims, Campaigns Reduce; M. P., 476
Crossing Protection; Report of National Conference on Street and Highway Safety, 1137, 1342, 1387
Flag Protection for Crossing Obstructions,

752†
Grade Crossing. Form for Recording and Reporting. 628-D78
Grade Crossings in 1929, 842
Grade Crossing in 1930, 1439
Grade Crossing Litigation, A Novel, 1144
Grade Crossing, Report on, 1589
Grade Crossing Situation, The Incredible in, 1356†
Grade Crossing Situation, The Incredible in, 1356†

1356†
Grade Crossings, Elimination of, 14\*
Grade Separation—Is It the Solution for, 1457†, 1473\*
I. C. C. Investigations, May and June, 208, July, 445, 658, August, 977, September, 1337
Motor Coach in New Mexico, 1543
Prevention, Superintendents' Report on, 1588
Reading, Number Fatal, 346
Safety Section Statistics, 250, 1172†, 1176, 1322
Safety Section Study of, 488
Steps to Avoid, 1292, 1539‡
ount Old Settled, 935

Steps to Avoid, 1292, 1539‡
Account, Old, Settled, 935
Accounting:
Adding Machine, Burroughs Electric, 1435\*
A. R. E. A. Report on Records, 628-D179\*
Cost Finding in Railroad Shop Manufacture, 1454-D96, 1454-D106†
Depreciation and Rate of Return, 134†
Depreciation, Report on, 227†
Stores Practices. Report on, 1454-D86\*
Tabulating Machines; C. R. I. & P., 1315\*
Uniform, for Motor Transport, 1269†

Uniform, for Motor Transport, 1269†

Accounting Department; Relationship to Law Department, 1114

Accounting Officers, Meeting of, 1113†, 1114\*

Adding Machine, Burroughs Electric, 1435\*

Adjustable Side Bearing, Standard, 1454-D34\*

"Advance, The"; C. & N. W. Train, 618

Advantages of Long Engine Runs, 1593

Advertising:

Methods Employed on British Roads, 695

Motor Coach; Economy in Travel Stressed, 746

Off-Season; Canadian National, 640\*

Patronage of Automobile Owners, Getting, 1538

Selling More Rides; Greyhound Lines, 725\*

Africa:

Africa

Africa:

Motor Transport; South African Rys., 534
Railway Progress, 130
Zambezi River Bridge Proposed, 407\*
Agricultural Department; L. I., 452
Agricultural Lecture Train; C. N. R., 358
Air Brake Association: Annual Convention, 1193, 1224\*. (Election of Officers), 1255
Air Brake Contribution to Transportation, 347\*
Air Brake Employees, Training and Supervision of, 1194
Air Compressor for Superheated Steam, 1548-D94\*
Air Compressors, Okemco Cleaning Solution for, 1548-D54
Air Cooled Air Compressor; Ingersoll-Rand, 307\*

1548-D54
Air Cooled Air Compressor; Ingersoll-Rand, 307\*
Air-Rail Service in 1929, 38\*
Air-Rail Service (See also Aviation)
Air Reduction Company: Annual Report, 455
Air Transport Shows Continued Advances, 1113†
Air Transport (See also Aviation)
Airplane Competition, Superintendents Discuss, 1592

Airplane Competition, Superintendents Discuss, 1592
Airplane Exhibit at A. R. A. Convention, 1454-D110\*
Aishton, R. H.. Address Before Mechanical Div., 1454-D64\*: P. & S. Div., 1454-D81\*
Ajax Cast-Steel Doors, 1454-D101\*
Ajax Cup and Dispensing Cabinet, 483\*
Ajax Cup Dispenser, 1454-D39\*
Alabama P. S. Commission on Interstate Regulation, 538
Alan Wood Steel Co.: Car Loading Plate, 835\*
Alan Wood Steel Co.: Flooring for Car Platforms, 1454-D43\*
Albertson & Co.; Sioux Electric Drill, 1537\*
Alco (See American Locomotive Company)
All-Rail Route to San Francisco Sought by W. P., 880
Allegheny Corporation:

880
Allegheny Corporation:
M. P., Hearing on Proposed Control of, 988
Railroad Ownership Investigation, 872
Allegheny Regional Advisory Board:
Meeting of, 702, 1447
Unloading of Freight Cars, 173
Alloys, Aluminum, Railroad Use of, 377\*
Alternating Current Track Circuits, 982
Alton Transportation Company: Notes, 312, 1297, 1344, 1544
Alturas Line; S. P., 637\*

Aluminum Alloy Plate in Hopper Car Construction, 1548-D98†
Aluminum Alloys, Railroad Use of, 377\*
Aluminum in Tank-Car Construction, 647\*, 836‡
Aluminum Lacquer on S. P. Lounge Cars, 754\*
America, First Railway in, 259
American Association of Passenger Traffic Officers,
Seventy-Fifth Birthday, 583†, 586\* (History)
American Association of Railroad Superintendents:
Annual Meeting, 1552†, 1587\*
American Brake Shoe & Foundry Co.: Annual Report, 454
American Brake Shoe & Foundry Co.: Double-

American Brake Shoe & Foundry Co.: Annual Re-Lug Brake Shoe, 1548-D52
American Car & Foundry Co.: Annual Report, 1611
Gondola for Shipping Bridge Cables, 1454-D16
Horse-Express Cars; C. & N. W., 547\*
Seat, Bucket Type, 1454-D102\*
American Federation of Labor: Against S. P. & S.,
Five-Day Week advocated, 1394, 1487
American Federation of Labor: Permanent Injunction Asked, 780
American Fork & Hoe Co.: Rail Anchor Has New Features, 628-D47\*
American Fork & Hoe Co.: Safety Rail Fork, 628-D111\*

American Geo Company: Track Tests, 140\*

American Fork & Hoe Co.: Safety Rail Fork, 628-D111\*

American Geo Company: Track Tests, 140\*
American Institute of Electrical Engineers:
Construction Procedure for Electrification of Railroads, 674\*
Transportation Group, Meeting of, 689
American Iron and Steel Institute:
Medal to Dr. E. A. Sperry, 396
Rail Joint Production in 1929, 1446
Rail Production, 1914-1929, 831
Tie Plate Production in 1929, 1446
American Locomotive Company:
Annual Report, 706
B. & A. 4-8-2 Type, 635\*
Bell Ringer, 1548-D78\*
High Pressure Locomotive; C. P. R., 172
Pipe Clamp, 1548-D83\*
Power Throttle Gear, 1548-D76\*
Rutland 4-6-2 Type, 437\*
Slidguide, 1548-D89\*
Timken 4-8-4 Type for Demonstrations, 1225\*, 1548-D68
Truck-Box Cellar, One-Piece, 1548-D95\*
Weldless Boiler Brace, 1548-D86\*
American Museum of Safety Harriman Medals
Awarded, 1606
American Standards Association, 1454-D11

American Museum of Safety Harriman Medals
Awarded, 1606

American Railway Association:
American Standards Association, 1454-D11
Car-Hire Rules; Rehearing Asked, 982, 1143, 1487
Car Service Division Report, 1245
Electrical Division Proposed, 1548-D56†
Freight Claim Division:
Annual Meeting, 1468\*
Central Claim Conference, 1153
Payments in 1929, 888, 924\*
Report on Re-coopering, etc., 405
Freight Container Bureau:
Bulletins, 215, 785, 988
Sewer Pipe Loading Study, 488
Fruits and Vegetables, Damage to, Discussion of, 1220†, 1243
Grade Crossing Protection, Report on, 1245\*
Mechanical Division:
Aishton, R. H., Address of, 1454-D64\*
A. R. E. E., Co-operation with the, 1548-D136†
Attendance, Record, 1548-D136†
Avers, A. R., Chairman-Elect, 1548-D165\*

D136†
Attendance, Record, 1548-D136†
Ayers, A. R., Chairman-Elect, 1548-D165\*
Borland, W. P., Address of, 1454-D115\*
Committees, 1454-D59
Chairman McManamy of the I. C. C.,
1548-D55†
Deaths of Members, 1454-D74
General Atterbury Sends Greetings to,
1454-D12
General Committee, 1454-D62\*

Greetings to, 1454-D12
General Committee, 1454-D62\*
General Committee, Report of, 1454-D66
Gormley, M. J., Address of, 1548-D15\*
History of, 1548-D140
Kleine, R. L., Address of, 1548-D118
Life Members, 1454-D60
McManamy, F., Address of, 1548-D114\*
Nominations, Report on, 1454-D118
Pack, A. G., Address of, 1548-D167\*
Proceedings, 1454-D56†, 1454-D62\*, 1454-D15†, 1454-D15†, 1548-D17†, 1548-D185†, 1548-D197†, 1548-D114\*, 1548-D165\*
Recommendations of Committees 121

Recommendations of Committees, 131
Registration, 1454-D10, 1454-D13, 1454-D59, 1454-D76, 1454-D108, 1454-D112, 1548-D4, 1548-D5, 1548-D59, 1548-D100, 1548-D136†, 1548-D137, 1548-D139, 1548-D166
Report of Arbitration Committees, 131

Report of Arbitration Committee, 1454-D121\*, 1548-D17, 1548-D138† Report of Joint Committee on Reclamation, 1548-D45\*, 1548-D97†, 1548-D122

Report on Automotive Rolling Stock, 1548-

Report on Brakes and Brake Equipment, 1548-D11\*
Report on Car Construction, 1548-D22\*
Report on Couplers and Draft Gears, 1548-D3†, 1548-D6\*
Report on Electric Rolling Stock, 1548-D13†, 1548-D154\*
Report on Loading Rules, 1454-D131\*
Report on Loading Rules, 1454-D131\*
Report on Locomotive and Car Lighting, 1548-D-144\*
Report on Locomotive Design, 1548-D147\*

Report on Lubrication of Cars, 1454-D147\* Report on Lubrication of Cars, 1454-D67\* Report on Lubrication of Locomotives, 1548-D127\*

Report on Prices for Labor and Materials, 1454-D130\*

Report on Prices for Labor and Materials, 1454-D130\*
Report on Resolutions, 1548-D182
Report on Safety Appliances, 1548-D35\*
Report on Shops and Engine Terminals, 1548-D163†, 1548-D170\*
Report on Specifications and Tests for Materials, 1548-D1616\*
Report on Tank Cars, 1454-D135\*
Report on Utilization of Locomotives, 1548-D161†, 1548-D174\*
Report on Wheels, 1548-D18\*
Scholarship at Stevens Institute of Technology, 987
Smart, G. E., Address of, 1454-D63\*
Smart, G. E., Address of, 1454-D63\*
Smart, G. E., Tribute to, 1548-D182
Summing Up!, 1548-D163†
Vauclain, S. M.. Address of, 1548-D140\*
Motor Transport Division:
Job of the Division, The, 501†, 713†
Meeting at Atlantic City, 1268†, 1506\* (Program), 1454-D75\*, 1454-D105†, 1454-D143, 1548-D2†, 1548-D4
"Old Home Week" for, 1454-D2†
Opportunity for All Railway Delegates, An, 1454-D55†
Registration, 1454-D10, 1454-D13, 1454-D59, 1454-D77, 1454-D108, 1454-D13, 1548-D100, 1548-D106, 1548-D137, 1548-D109, 1548-D106, 1548-D137, 1548-D109, 1548-D106
Written or Verbal Reports, 1454-D105†
Power Brake Investigation, Report on, 1245
Purchases and Stores Division:
Aishton, R. H., Address of, 1454-D81\*
Attendance, Record, 1548-D136†
Committees, 1454-D179\*
Deants of Members, 1454-D99
Denney, C. E., Address of, 1454-D80\*
Essay Contest, 1202, 1454-D139\*
General Committee, Members of, 1454-D82\*

General Atterbury Sends Greetings to, 1454-D12
General Committee, Members of, 1454-D78\* General Committee, Report of, 1454-D82\* Grammer, P. L., Address of, 1548-D36\* Latta, A. F., Address of, 1548-D36\* Latta, A. F., Address of, 1454-D90
Proceedings, 1454-D56†, 1454-D78\*, 1454-D106†, 1454-D139\*, 1454-D144\*, 1548-D7\*, 1548-D36\* Registration, 1454-D10, 1454-D108, 1454-D114, 1548-D4, 1548-D106, 1548-D59, 1548-D70, 1548-D100, 1548-D106, 1548-D136†, 1548-D137, 1548-D139, 1548-D166
Report of Joint Committee on Reclamation, 1548-D45\*, 1548-D97†, 1548-D122
Report on Classification of Material, 1454-D83\*
Report on Controlling Supplies, 1548-D38\*

D83\*
Report on Controlling Supplies, 1548-D38\*
Report on Dining Car and Commissary Supplies, 1548-D41\*
Report on Fire Prevention in Storehouses, 1454-D155\*

Report on Forest Products, 1454-D56†, 1454-D88\*

1454-D88\*
Report on Loading and Handling Cars, 1454-D162\*
Report on Manufacturing in Railroad Shops 1454-D95\*, 1454-D106†
Report on Material Handling and Distribution, 1454-D156\*
Report on Methods of Conserving Materials, 1454-D91\*
Report on Methods of Pricing, 1548-D40\*
Report on Purchasing Office Methods, 1454-D150\*
Report on Reclamation. 1548-D43\*

Report on Reclamation, 1548-D43\*
Report on Standardization, 1454-D158\*
Report on Stationery Buying and Printing, 1454-D153\* Report on Store Department Rules, 1454-D86\*

Report on Stores Accounting Pactices, 1454-D86\*

Report on Stores Department Safety Work, 1454-D93\*

Report on Training Supply Forces, 1454-D48\*
Report on Training Supply Forces, 1454-D163\*

Russian Visitors, 1454-D58 Scope of, 1454-D2†

### GENERAL INDEX-Continued

[Illustrated articles are indicated thus\*; Editorials thust; Letters to Editor thust]

Standards and Car Lumber Prices, 1454-D56†, 1454-D88\* Tobey, C. B., Address of, 1454-D144\* Walsh, C. E., Chairman-Elect, 1548-D7\*

Tobey, C. B., Address of, 1454-D144\*
Walsh, C. E., Chairman-Elect, 1548-D7\*
Safety Section:
Accident Statistics Analyzed, 1322
Casualty Records Analyzed, 250
Circulars, 213\*, 250, 488 (Train Accidents),
701, 938, 1172† 1176 (Six-Year Record)
Poster, 1487
Safety Record; Six Years, 1174, 1176
Signal Section:
Address of M. J. Gormley, 628-D97
Address of H. W. Lewis, 628-D8\*
Address of H. E. Newcomet, 628-D7\*
Alternating Current Track Circuits, 982
Changes in Method of Procedure, 628-D2†
Conventionalities, 628-D4†, 628-D54\*
Gault, P. M., Chairman, 628-D108\*
Gillingham, W. J., Jr., Passes, 628-D5
Membership, Increase in, 628-D2†
Officers, New. 628-D108\*
Personnel Changes, 628-D4
Personnel Changes, 628-D57, 628-D97\*
Registration, 628-D38, 628-D96
Report of Committee of Direction, 628-D9
Report on A-C. Block, 628-D16\*
Report on Contracts, 628-D98\*
Report on Contracts, 628-D198\*
Report on Contracts, 628-D198\*
Report on Contracts, 628-D198\*
Report on Highway Crossing Protection, 628-D23\*
Report on Highway Crossing Protection, 628-D104\*

628-D23\*
Report on Highway Crossing Protection,
628-D104\*
Report on Interlocking, 628-D99\*
Report on Overhead and Underground Lines,
628-D13\* Report on Signaling Instructions, 628-D52†, 628-D102\* 628-D102\*
Report on Signaling Practice, 628-D10\*
Report on Standard Designs, 628-D21\*
Russian Views Convention, A, 628-D6
Signaling Principles and Practices, 628-D52†, 628-D102\*
Special Session, 1220†, 1243
Transportation Division Meeting, 1187

rican Railway Development Association: Meet-ing, 1598

American Railway Development Association: Meeting, 1598

American Railway Engineering Association: Acquaintanceship Among Engineers, Promotion of, 628-D114†
Address of M. J. Gormley, 628-D57
Address of President Yager, 628-D58\*
Annual Convention, 573 (Program) 628-D1†, 628-D51†, 628-D51\*
Canventionalities, 628-D55
Conventionalities, 628-D55
Conventionalities, 628-D63
Discussion, More, 628-D2†
Education, A Problem of, 1049†
Effort, Another Worth-While, 628-D113†
Electrical Section, Importance of 628-D171†
Geographical Scope of, 628-D54
Grade Crossing Protection; Committee Appointed, 628-D114†, 628-D117, 1081
Identification, Change in Needed, 628-D51†
Lee, E. H., Honored, 628-D36\*, 628-D89\*, 628-D161\*, 628-D68\*
Membership, 628-D63
Officers, New, 628-D162\*
Personnel Changes, 628-D43
Precedent Broken, A, 628-D113†
President's Dinner, The, 628-D66
Proceedings, 628-D19\*, 628-D17\*, 628-D17\*
Registration, 628-D90, 628-D161\*, 628-D17\*
Registration, 628-D190, 628-D171†, 628-D175\*
Registration, 628-D190, 628-D113†
Report on Ballast, 628-D128\*
Report on Co-operative Relations with Universities, 628-D191\*
Report on Economics of Railway Location, 628-D171†, 628-D200\*
Report on Economics of Railway Location, 628-D171†, 628-D200\*

Report on Economics of Railway Location, 628-D171†, 628-D200\* Report on Economics of Railway Operation, 628-D203\* Report on Grade Crossings, 628-D53†, 628-D56\* Report on Iron and Steel Structures, 628-D115†, 628-D147\*

Report on Masonry, 628-D172†, 628-D182\*
Report on Rail, 628-D114†, 628-D150\*
Report on Records and Accounts, 628-D179\*
Report on Rivers and Harbors, 628-D197\*
Report on Roadway, 628-D81\*
Report on Rules and Organization, 628-D74\*
Report on Shops and Locomotive Terminals, 628-D144\*
Report on Signals and Interlocking, 628-D123\* 9.28-D144\* Report on Signals and Interlocking 628-D123\* Report on Standardization, 628-D64\* Report on Stresses in Track, 628-D51†, 628-D85\* Report on Ties, 628-D114†, 628-D131\* Report on Track, 628-D13†, 628-D139\*

Report on Uniform General Contract Forms, 628-D67\* Water Service and Sanitation, 628-D63\* Report on Water Service and Sanitation, 628-D63\*
Report on Wooden Bridges and Trestles, 628-D172†, 628-D176\*
Report on Wooden Bridges and Trestles, 628-D172†, 628-D176\*
Report on Yards and Terminals, 628-D136\*
Secretary Fritch, 628-D1†
Secretary Fritch, Report of, 628-D62\*
Secretary Fritch, Report of, 628-D62\*
Secretary Fritch; Visit to Japan, 628-D52†
Stock Ticker Report, 628-D174
Values, Intangible, One of the, 628-D114†
Visitors, 628-D4 (Manchuria), 628-D54 (Mexico), 628-D56\* (Soviet Union), 628-D118
Why Standardization? 628-D52†
Yager, L., Cup Presented to, 628-D117\*
erican Railway Magazine Editors' Association:
Annual Meeting, 1203
erican Short Line Railroad Association: Rules

American Short Line Railroad Association: Rules for Car-Hire Settlement, 1143 American Society of Mechanical Engineers: Contribution of Air Brake to Transportation, 347\*

347\*
Fiftieth Anniversary of, 881
Railroad Division, Meeting of, 1454-D58
Wright, Roy V., Nominated for President, 1454-D10
erican Standards Association, A. R. A. Joins,

American Steel Foundries: Annual Report, 665
American Steel Foundries: Radial Coupler, 1454-D31\* American Wood Preservers' Convention, 383\*

American Steel Foundries: Radial Coupler, 1454-D31\*

American Wood Preservers' Convention, 383\*

Analysis of Motor Truck Taxation, by A. D. Ferguson, 291\*

Anchors (See Rail Anchors)
Anderson-Ajax Steel Spring Cover, 1033\*

Annal Reports (See name of Bureau; also, names of companies)

Apennine Tunnel Dedicated, 662\*

Appropriations:

Interstate Commerce Commission, 390, 442, 472, 548, 936, 982

Postoffice Department, 215

Rivers and Harbors, 572, 658, 987, 1047†, 1077, 1138, 1207, 1342, 1490, 1607

War Department, 173, 212, 213

Arbitration Committee. Report of, 1454-D121\*, 1548-D17, 1548-D138†

Arch-Bar Truck Elimination Problem, 1548-D138†

Arch-Bar Truck Passes, 1454-D126, 1548-D1†

Argentina:

Railway Operations in, 1929, 125

Transandine Railway Agreement with Chile, 960

Arkansas: Class Rates for Trucks Prescribed, 1299

Armored Car for Paymasters, 628-D169\*

Armour & Company; Competition, Unfair, Investigation of, 419†, 438, 926, 1252, 1373, 1431, 1478

Associated Business Papers, Inc., Honors Railway Age, 1203

Associated Traffic Clubs of America: Valuation and Rates, 1068\*

Association of Railway Claim Agents:

Annual Convention, 1307†, 1318\*, 1519\*

Co-ordinating Rail and Motor Coach Claim Work, 1519\*

Fracture Problems on Railroads, 776

Association of Railway Club Secretaries, Meeting of, 1548-D58

Association of Railway Club Secretaries, Railway of, 1548-D58

Fracture Problems on Railroads, 776
Association of Railway Club Secretaries, Meeting of, 1548-D58
Association of Railway Club Secretaries: Railway Club Possibilities, 1548-D136†
Association of Railway Electrical Engineers: Cooperation with Mechanical Div., 1548-D136†
Association of Railway Electrical Engineers: Semi-Annual Meeting, 1548-D107\*
Association of Railway Executives: Spring Meeting, 1243
Atchison, Toneka & Santa Fee

Atchison, Topeka & Santa Fe: Abandonment of Line, Authority Applied for, Atchison, Topeka & Santa Fe:
Abandonment of Line, Authority Applied for, 1202
Air-Rail Service, 215, 358, 406, 842, 1490
Annual Report, 1002
Car, Tank, 1454-D111
"Detour" Highway Service Expanded, 1152, 1283\*
Lines in Southwest, Proposed; Hearing on, 357
Motor Transport (See Santa Fe Transportation Company)
Mountain Operations Move Smoothly, 959\*
Operating Results, 1065\*
Port Arthur-Beaumont Line Opposed, 988
Rail Records, 814
Stores Department Meeting at San Bernardino, 214\*
Ties; Protection in the Woods, 1123
Train Time Shortened, 939, 1208
Underframe, Commonwealth Cast Steel, 1548-D100\*
Union Passenger Station Order Upheld, 1341, 1607
Athletics Developed Through Clubs; U. P., 1325\*
Atlanta & St. Andrews Bay: Operating Results in 1929, 1334

Atlantic City Route Case; Court Refuses to Review, 743

Atlantic City Route Case; Court Refuses to Review, 743
Atlantic City's Municipal Auditorium, 1454-D9\*, 1548-D74\*
Atlantic Coast Line:
Centenary of, 487, 658
"Dope" Laundry, 425\*
Safety Record; Tampa Shops, 161
Atlantic States Shippers' Advisory Board: Meeting of, 265
Atlantic States Shippers' Advisory Board: Unloading of Freight Cars, 173
Auditorium at Atlantic City, 1454-D9\*, 1548-D74\*
Australia:
Commonwealth Rys., Results on. 493

traina: Commonwealth Rys., Results on, 493 Railway Progress in 1929, 128 tria: Tourist Information Office at Chicago, Austria: T 1490

1490
Austrian Federal Railways:
Locomotive, 2-8-4 Type, 685\*
Multiple Tunnels, 1605
Progress in Recent Years, 123
Autocar Six-Wheel Motor Truck, 1288\*
Autogenous Welding Limits and Regulations, 1454D123
Automatic Block Signals Without Track Circuits,
1144

Autogenous Welding Limits and Regulations, 1454-D123
Automatic Block Signals Without Track Circuits, 1144
Automatic Oil Reducer, 1548-D88\*
Automatic Printers (See Printers, Automatic)
Automatic Signals (See Signaling)
Automatic Train Control:
Developments, 628-D123
Signal Section's Report on, 628-D10\*
Suggestions of I. C. C., 584†
Year 1929, 115
See also Signaling
Automatic Train-Stop Approved on L. I., 1252
Automobiles, Form for Reporting Damage to;
N. Y. C., 405
Automotive Rolling Stock, Report of Mechanical
Div., on, 1548-D123\*
Average Load per Freight Car, 1924-1929, 33
Average Load per Freight Car, 1924-1929, 33
Average Load per Freight Train, 1924-1929, 33\*
Average Prices, Stocks and Bonds, in 1929, 63\*
Aviation:
Air-Rail Service to Southwest (T.A.T.), 1088
Air Transport Shows Continued Advances,
1113†
Fare Reduced, Air and Rail, 215 (T.A.T.)
Fares Increased; T.A.T.-Maddux Air Line,
1490
Monon Transportation Company Formed, 1392,
1542
N. A. T. Plans New York-Chicago Passenger
Service, 785
N. Y.-Philadelphia-Washington Airway Corp.,
Formed, 1396
Traffic Statistics; Air-Rail Service, 406
T. A. T. Traffic Increases, 842
Axle Generator Drives, Positive Mechanical, 1548D145
Axle Loads, Report on, 1548-D22\*
Axle, Timken, for Heavy-Duty Motor Coach Service, 1290\*

D145
Axle Loads, Report on, 1548-D22\*
Axle, Timken, for Heavy-Duty Motor Coach Service, 1290\*
Axles, Rail Motor Car, Report on, 1548-D24
Ayers, A. R., Chairman-Elect, Div. V., 1548-D165\*

### $\mathbf{B}$

Baker Valve Gear, Center-Hung, 1548-D80\*
Baldwin Locomotive Works:
Annual Report, 576
C. & N. W. 4-8-4 Type, 144\*
C. M., St. P. & P. 4-6-4 Type, 559\*
Diesel Locomotives; I. R. F. A. Report, 1134\*
Great Northern 4-8-4 Type, 965\*, 1143
I. C. Electric Switching and Transfer, 1060\*
Oil-Electric Switcher Tested, 937
Wabash 4-8-2 Type, 821\*
Ball Joints, Flexible, for Pipe Connections, 1548-D75\*
Ballast, A. R. E. A. Report on, 628-D128\*

Wabash 4-8-2 lype, 821

Ball Joints, Flexible, for Pipe Connections, 1548-D75\*

Ballast, A. R. E. A. Report on, 628-D128\*
Ballast Cleaner, McWilliams Mole, 628-D166\*
Ballast. Washed Gravel, Specifications for, 628-D129

Baltimore & Ohio:
Accounting Association Officers, 450
Annual Report, 579
Automatic Block Signal Installations, 1450
B. R. & P., Control of Authorized, 443, 619
Car. All-Welded Hopper, 1454-D14, 1454-D111\*, 1548-D56†
Car, Dining, 1454-D17
Car, Gondola, 1454-D15
Charter, Original, 935
Coach Fare Reduction Proposed, 889, 939
(withdrawn), 1040
Eastern Unification Plan, 404, 467, 566, 578
(Application Withdrawn)
Education of Farm Women, 1344
Lake-Rail Freight Route and Rates, 988
Motor Coach Transfer Investigation Asked, 352, 405, 533, 1089, 1139
Motor Transport Operations Results of, 1513
Motor Transport See also West Virginia
Transportation Co.)
Operating Results, 919\*
Operating Trucks in Freight Service, 1035‡
Passenger Coach, 1454-D17
Safety Contest Winners, 615

Scholarships to be Awarded, 936 Violation of Clayton Anti-Trust Act, 212 Warehouses, Contract, Allowances to Pro-hibited, 215, 405 Bangor & Aroostook: Locomotives, 4-8-2 Type, 635\* 635\*
Bar and Billet Shears, Pels Type FV-23, 1454-D52\*
Bar, Hook and Roller, 1454-D48\*
Bar, Pinch, with Saw-Tooth Grips, 1454-D101\*
Barbados: Railway Conditions in, 128
Barco Lubricated Plug Valves, 1548-D75\*
Barge Lines (See Mississippi Valley Barge Line;
also Inland Waterways)
Barge-Rail Cotton Rates Suspended, 174 Barge-Rail Rates Increased; Inland Waterways Corp., 341
Parge-Rail Rates in Southwest, 358
Barrier, Yielding Positive, for Highway Crossings,
869\* Basket Bunker, Divided, vs. Brine Tanks in Refrigerator Cars, 1392
Battery Capacity Rating, Standardization of, 1548-Battery Capacity Rating, Standardization of, 1548-D145
Battery; Resistance Unit for, 628-D46\*
Beacon, Locomotive; P. R. R., 487
Beardslee Launch & Barge Service, Inc., Certificate Issued to, 1607
Bearing Power of Soils, 628-D172†, 628-D184
Bearings, Standard Adjustable Side, 1454-D34\*
Bearings, Roller-Bearing Side, 1454-D162\*
Bearings, Roller-Bearing Side, 1454-D102\*
Elgian Crossing Protection, 1391
Bell Ringer With Cushion-Spring Stop, 1548-D78
Benefits of Improved Railway Service, 135†, 153\*, 185†, 195\*, 245\*, 369† (manufacturers)
Bessemer & Lake Erie: Gondolas, 65-Ft., 1323\*
Bethlehem Steel Co.: Keystone Metal Tie, 628
D109\*
Bethlehem Steel Company: Rail Contour Ma-Bethlehem Steel Company: Rail Contour Machine, 628-D167\*
"Better Heaith" Car; S. P., 1085
Bibliography of Railway Passenger and Freight
Stations, Terminals and Yards, 628-D138
Fill for Adjudication of Short Line Claims Passed,
838 Lading and Livestock Contract Amended, Bill of Lading and Livestock Contract Amended, 1396
Billet Shears, Pels Type FV-23, 1454-D52\*
Bingham & Garfield: Centralized Control, 1058\*
Bird-Archer Locomotive Water Conditioner, 567\*
Black & Decker: Electric Valve Grinder, 528\*
Blackhawk Tool Box Jack, 1536\*
Blizzard in Chicago, 781
Blow-Off Cock, T-Z, 1548-D82\*
Blue Island: Interlocking with no Mechanical Locking; C. R. I. & P., 373\*
Board of Engineers; Report on Mississippi River Project, 471
Board of Engineers; Transfer of New York Canals to U. S. Recommended, 889
Board of Railway Commissioners, Appropriations for, 616 of Railway Commissioners, Appropriation for, 616 of Transportation (N. Y.); Authority Extended, 936 tended, 936

Boat-Train Service; P. R. R., 1207

Boat Train, The Malolo, 265

Boiler Brace, Alco Weldless, 1548-D86\*

Boiler Makers (See Master Boiler Makers)

Boiler Plate, Lukens Steel, 1454-D16, 1548-D70

Bolivia: Railway Progress in 1929, 126

Bolster Spring, Cardwell, 1548-D49\*

Bolt. MacLean-Fogg Water-Tight, 1454-D34\*

Bonds: Average Prices, 1923-1929, 63\*

Bonds of Moffat Tunnel Commission, 356

Books and Articles of Special Interest, 158, 210, 258, 353, 393, 448, 485, 569, 609, 656, 698, 778, 836, 877, 934, 980, 1083, 1141, 1199, 1250, 1339, 1390, 1437, 1485, 1604

Booster, Formula for Computing Tractive Force of, Booster, Formula for Computing Tractive Force of, 1548-D152 Boring Bar, Electric-Driven, 528\*
Borland, W. P. (See Bureau of Safety)
Bosch LHA Forced-Feed Lubricator, 1548-D131\*,
1548-D160 1548-D160
Boston & Albany: River Crossings, 610
Boston & Lowell, Centenary of, 1203, 1375\*
Poston & Maine:
Centenary; New England Railroads, 1203, 1375\* Centenary; New England Railroads, 1203, 1375\*
Children Aided by Loring Fund, 213
French, Edward S., President, 927\*
Hannauer Memorial Tablet, 1398\*
Interesting Track, 779
Motor Transport Operations, Results of, 1512
Motor Vehicles (See Boston & Maine Transportation Company)
Operating Trucks in Freight Service, 1034‡
Rail-Motor Coach Service, 1045
River Crossings, 878
Signal Material, Handling, 1454-D160\*
Winter Sports Guide, 173
Boston & Maine Transportation Co.:
Garage, Cambridge, 507\*
Maintenance Plan, 715\*
New Hampshire Certificate Issued, 743
Bottom-Rod Guard, Davis, 1454-D40\*
Bottom-Rod Supports, Discussion of, 1548-D11\*
Box Car; Reading, 1454-D15\*
Box Car, Steel Double-Sheathed, Design of, 1548-D24
Box Car, Steel-Sheathed, P. R. R., 1454-D16
Boy Scouts as Railroaders; C. M., St. P. & P., 450

Brackets, Standardization of, Mech. Div. Report on, 1548-D147\*
Bradford Corp.: Wagner Locomotive Throttle Valve, 1548-D90\*
Brake, Air (See Air Brake)
brake Drums and Linings for Motor Trucks, 289
Brake Equipment for Self-Propelled Rail Cars 1548-D49\*
Brake Gear Begulators, Royal Foundation, 1454. Brake-Gear Regulators, Royal Foundation, 1454-D37\*
Brake, Klasing Hand, 1548-D50\*
Brake, Peacock No. 450, 1454-D41\*
Brake Shoe, Double-Lug, 1548-D52
Brake, Urcco Hand, with Vertical Wheel, 1454-D99\* Brake, Oreco Hand, with Vertical Wheel, 1454-D99\*
Brake, Wheel-Operated Vestibule, 1454-D35\*
Brakes and Brake Equipment, Mechanical Division Report on, 1548-D11\*
Erakes and Brake Equipment: Recommendation of A. R. A. Committee, 131
Braking, Regenerative, on Electric Locomotives, 1548-D135†, 1548-D154
Branch Lines Opened by C. N. R., 1207
Braun Radial Drilling Machine, 1454-D51\*
Brazil: Mountain-Climbing Equipment, 837\*
Brazil: Oeste de Minas Rv. Electrification, 1345
Brazing Spring Shackles, 733\*
Bridge Construction: Use of Creosoted Douglas Fir, 385
Bridge Stress Committee of Great Britain, Report of, 628-D115†, 628-D147\* of, 628-D1137, 628-D137

Bridges:
A. R. E. A. Report, 628-D115†, 628-D147\*, 628-D176\*
Cleveland Union Terminal Project, 1574\*
Foundation Practices, 464\*
K. C. S., in Missouri, 909\*
Longitudinal Forces Applied to, 628-D149
Making Old Bridges Stronger, 628-D6, 756\*
Materials, Standardization of, 628-D172†, 628-D176 Materials, Standardization of, 628-D172†, 628-D176
Methods, Better in 1929, 44
Michigan Central at Kettle Creek, 1412°
More Test Data Needed, 630†
More Test Needed, 628-D115†
Rules for Maintenance of, 628-D74\*
Suisun Bay; Southern Pacific, 1458\*
Toledo Terminal Railway, 464\*
Two-Color, 160
Western Society of Engineers Discussion, 628-D6, 756\*
Whiting Electric Cross-Over, 1454-D48\*
Wooden Overhead, 628-D176
Bridging San Francisco Bay, 187\*
Briggs & Stratton Window Lifters, 1548-D50\*
Brill Rail Motor Cars, 1548-D73\*
Brimstone Railroad & Canal Co.: Valuation, Final, 607, 846
Bringing a New Point of View to the Railroad, 671†
Britain (See Great Britain) Bringing a New Point of View to the Railroad, 671†
Britain (See Great Britain)
Broad-Minded Administration of Law, A, 1548-D162†, 1548-D167\*
Brockway Double Reduction Drive Truck, 1536\*
Brotherhood of Locomotive Engineers' Convention, 1487
Brotherhood of Locomotive Firemen & Enginemen; Full Crew Complaint Dismissed, 838, 1606
Brotherhood of Railway Trainmen: Hand Brakes, Controversy on, 6554, 866
Bucket Type Seat, A. C. F., 1454-D102\*
Buckeye Quick Wheel-Change Truck, 1454-D31\*
Buckeye Portable Tools, 1454-D51\*
Buckeye Steel Car End, 1454-D40\*
Buckeye Six-Wheel Tender Truck, 1548-D81\*
Buda Armored Car for Paymasters, 628-D169\*
Buda Bumping Post, New, 628-D44\*
Budd, Ralph, to Study Russian Railways, 395, 983, 1393
Budget: Chesapeake & Ohio, 260 1393
Budget: Chesapeake & Ohio, 260
Budget: Southern of Great Britain, 704
Budget System Established on C. N. R., 1343
Budgets for 1930, 19\*
Buffalo Bottom-Rod Supports, 1454-D42\*
Buffalo Forge Company: Unit Heater, New Type
of, 345\*
Buffalo Interviban Park Lines American Buffalo Bottom-Rod Supports, 1454-D42\*
Buffalo Forge Company: Unit Heater, New Type of, 345\*
Buffalo Interurban Bus Lines; Agreement with P. R. R., 741
Buffalo, Rochester & Pittsburgh:
Annual Report, 622
B. & O. Control Authorized, 443, 619
Junior Safety Workers' League, 395
Operating Results, 645\*
Youngest Veteran, 935
"Buffalo Wetboy" Unit Heater, 345\*
Buffalo Wetboy" Unit Heater, 345\*
Buffalo Wetboy" Unit Heater, 545\*
Building Stone, A New, 628-D49\*
Buildings: A. R. E. A. Report, 628-D186\*
Buildings, Railway; Specifications for, 628-D187\*
Bulgaria: Railway Operations in 1929, 124
Eumping Post, Buda, 628-D44\*
Bureau of Locomotive Inspection; Salary Increases, 982
Bureau of New Ideas, P. R. R., 1202
Bureau of Railway Economics:
Freight Traffic Statistics, 215, 493, 701, 939, 1259, 1491
Revenues (See Revenues and Expenses)
Bureau of Safety:
Accident Reports, 208, 445, 658, 977, 1337
Motor Coach Accident in New Mexico, 1543
Suggestions as to Adequate Signaling, 584†
Work of, 1454-D115\*

Bureau of Standards: Motor Vehicle Taxation Investigation, 1298
Bureau of Statistics, I. C. C.: Commodity Values and Freight Rates, 690, 785
Burlington Transportation Company: Keeping Motor Coaches Clean, 529‡
Burroughs Portable Electric Adding Machine, 1435\*
Bushings, Steam Chest and Cylinder, Pressures for Applying, 1548-D148\*
Business:
Amount Secured by Frisco Clubs, 616
Benefits from Improved Railway Service, 135†
153\*, 185†, 195\*, 245\*, 369†
Condition of, 1112†
Freight, Trend in, 1†, 421†
Government, the Railways and, 1219†
Improving, 953†
Prospects in 1930, 9\*, 16\*
Railroads Lose Business to Trucks, How, 1551†
Word About, A, 1454-D2†
Business Conditions and Taxes, 1407†
Business Conditions and Taxes, 1407†
Business Men and Socialism, 11117
Buying, How the Illinois Central Does Its, 1364\*
Buying: Is Turnover Always of Primary Importance? 1454-D139\*
Buying, Railway, and the Wholesaler, 257‡
Buying, Railway, Cost of, 322†
Buying, Reciprocal, and Self-Regulation of Industry, 419†, 571
Buying, Reciprocal; Federal Trade Commission Investigations: Swift & Company; 131, 140, 205, 479, 541†, 564, 598, 693, 771, 778‡, 299, 951†
Waugh Equipment Company, 926, 1252, 1373, 1431, 1478
Buying, Reciprocal, Investigation Proposed by Senator, 419†, 433
Buying (See also Purchases)
Buyers Wreught-Iron Locomotive Forgings, 1548-D132

Cab Signaling; C of N. J., 1174\*
Cab Signaling, Extending, 11707
Cab Signals; P. R. R., 493, 628-D12
Cab Transfer, Free; I. C., 1543
Cabinet, Drinking Cup and Dispensing; Ajax, 483\*
Cable Ducts, Submarine, Novel Method Used in Laying, 1050\*
Cable; Specifications Revised, 628-D13\*
Caboose Car; Reading, 1454-D16\*
Caboose, Concrete; L. & N. E., 705\*
Caboose Valve Designed to Replace Cutout Cock, 1454-D104\*
Cafe-Observation Cars; C. & N. W., 966\*
California: Bond Issue for Crossing Elimination Proposed, 879.
California: Conformity of Interlocking Plants, 260
California: Grade Crossings, Report on, 260
California: Grade Crossings, Report on, 260
California: Grade Crossings, Report on, 260
California Fruit Rate Care, 1377, 1610
California: Grade Crossings, Report on, 260
California: Grade Crossings, Report on, 260
California: Onegon Construction Approved, 1595\*, 1606
California R. R. Commission: Motor Vehicle Safety Rules, 1281
California R. R. Commission: Union Passenger Station Order Upheld, 1341, 1607
California: Uniform Freight Classification for Truck Lines, 1505†, 1521
California: Winter Travel to, 388
Cambridge Garage, B. & M. Transportation Co., 507\*
Camden Forge Company; Nitrided Forgings, 1548-D53
Cammack Freight Line; Permit Granted, 1546
Campaigning Railroader, A, 570
Campaigns Reduce Claims; M. P., 476\*
Campaigns R

Coal, Cost of Movement; Alberta to Ontario, 406
Coal Subsidy, 1448
Deputy Minister of Railways and Canals Appointed, 659\*
Deputy Minister of Railways and Canals Resigns, 615\*
Fire Protection in 1929, 888
Hudson Bay, Another Railway to, Proposed, 1144
Legislation, 1204
Lower Grain Rates to Maritimes Sought, 1143
Minister of Railways Appointed, 213\*
New Lines in, 47\*
New Sprint Rates, Hearings on, 939, 1259, 1610
Peace River Pacific Outlet Favored, 1204, 1394

[Illustrated articles are indicated thus\*; Editorials thust; Letters to Editor thust]

Progress in 1929, 46°
Railway and Steamship Estimates, 1204
Railway Construction in 1929, 61
Shop Crafts Seek Five-Day Week, 1487
Western Rate Case, 265
Canadian Commission, Work of, 881 Canadian Commission, Work of, 881
Canadian National:
Agricultural Lecture Train, 358
Branch Lines Opened, 1207
Budget System Established, 1343
Capital Expenditures, 1252
Earnings, 172, 1393
Estimates Tabled, 839
Fastest Long Distance Train, 888, 1054
Ferguson, A. D., on Motor Truck Taxation, 291\* 291°
First Aid Cars, 660°
Fuel Oil Tests, 1548-D124°
Government Loans, 1204
Grade Crossing Litigation, A Novel, 1144
Hudson Bay Railway Operation, 1088, 1452
Improvements at Montreal Planned, 681°
Locomotive Repair Shop at Montreal, 549°
Maritimes, Traffic Increases in, 405
Off-Season Advertising, by C. F. Goldthwaite, 650° 650° Refinancing; H. Thornton on, 451, 1254 (Postponed)
Rosevear Family, 878
Rosevear Family, 878
Sheep Instruction Train, 264
Shrine Convention, Housing for, 1484\*
"Soils and Crops Train," 1153
Southern New England Option Granted, 571
Station, Passenger, Hamilton, Ont., 220
Thornton, Sir H. Honored by U. of P. Club, 658 658
Track to Montreal Airport, 1342
Train Telephone Service, 1053\*
Train Time Shortened, 888
Union Station at Toronto, 487
Winnipeg-Hudson Bay Short Line Surveys, Year 1929, by J. G. Lyne, 46\*

Canadian Pacific:
Annual Report, 794
Code System of Communication, 584†
Earnings, 172, 397, 615, 839, 1086, 1393
Improvement Program, 492
Interchange at Winnipeg, 703 (G. N.), 841
(N. P.)
Locomotive, High Pressure, 172
Pacific Great Eastern Negotiations, 1144
"Soils and Crops Train," 1153
Shrine Convention, Housing for, 405, 1484\*
Union Station at Toronto, 487
Year 1929; by J. G. Lyne, 46\*
Canadian Railway Club: Annual Banquet, 396
Canal Construction Advocated; N. J., 265
Canal to Connect N. Y. Bay with the Delaware
River; Adverse Report on, 1152
Capacity Rating of Car Lighting Batteries, 1548D145
Capital Expenditures; C. N. R. in 1930, 1252 Year 1929, by J. G. Lyne, 46\* Capital Expenditures; C. N. R. in 1930, 1252 Capital Expenditures in 1929, 636 Capital Expenditures in 1930, 11°, 19°, 28, 1243, 1417 Capital Expenditures, 1923-1929; 28 Capital Expenditures, 1924-1930, 1417 Capital Expenditures, Maintaining, 1† Capitalization and Income for 1929, 1085 Car: (See also Cars) Aluminum in Tank-Car Construction, 647\*, Aluminum in Tank-Car Construction, 647\*, 836‡
Arch-Bar Truck Passes, 1454-D126, 1548-D1†
Armored, for Paymasters, 628-D169\*
"Better Health"; S. P., 1085
Bottom-Rod Guards, 1454-D40\*
Bottom-Rod Supports, 1454-D42\*
Bottom-Rod Supports, Discussion on, 1548-D11\*
Box: Reading, 1454-D15\*

D011\*\*Box; Reading, 1454-D15\*\*Box; Reading, 1454-D15\*\*Box, Song of, 1391\*Box, Steel Double-Sheathed, Design of, 1548-D24\*Box, Steel-Sheathed; P. R. R., 1454-D16\*\*Caboose, Concrete; L. & N. E., 705\*\*Caboose, Reading, 1454-D16\*\*Caboose Valve Designed to Replace Cutout Cock, 1454-D104\*\*Color Schemes, 543†\*Consolidator) Construction, A Coming Process in, 1548-D56†\*Construction, Development in, 47, 45 Construction, A Coming Process in, 1548-D567
Construction, Development in, 47, 45
Construction; Recommendations of A. R. A. Committee, 131
Construction, Report on, 1548-D22\*
Dining, B. & O., 1454-D17
Doors, Ajax Cast-Steel, 1454-D101\*
Dynamometers; C. M. St. P. & P., 1581\*
Dynamometer, vs. Standing Tests, 1182
Exhibits, 1454-D14\*, 1454-D111\*
Flat, Well-Type, P. R. R., 1454-D16
Gondola, B. & O., 1454-D15
Gondola, Drop-End Door Lock for, 1454-D165\*
Gondola for Shipping Bridge Cables, 1454-D16 Gondola, Reading, 1454-D14\* Gondola, Wine Equipped, 1454-D111

GENERAL INDEX-Continued indicated thus\*; Editorials thus†; Letter

Hopper, All-Welded; B. & O., 1454-D14, 1454-D111\*, 1548-D56†

Hopper, Wine Equipped, 1454-D111 Inspection Pit, 1454-D105†, 1454-D1118\*

Klasing Brake Demonstration, 1454-D112 Lighting, Report on, 1548-D144\*

Orders in 1929—Freight, 85\*
Orders in 1930—Freight, 630†
Orders in 1930—Passenger, 94\*
Orders in 1930—Passenger, 94\*
Orders in 1930—Passenger, 630†
Ownership and Standardization in Great Britain, 1397
Passenger Coach, B. & O., 1454-D17
Passenger Coach, Reading, 1454-D17
Passenger, Diehl Positive Drive for Generator Sets, 1548-D78\*
Pennsylvania De Luxe Coach, 1454-D17
Poultry: Wabash, 843
Refrigerator, All-Steel Express; P. R. R., 1454-D16
Refrigerator and Heater; Iceless; Silica Gel, 921\*, 1454-D14\*
Roller Bearings on, Coal; P. R. R., 395
Seat, A. C. F. Bucket Type, 1454-D102\*
Seats, Double Rotating, 1454-D166\*
Sperry Detector, 628-D114†, 628-D152, 628-D154
Tank; A. T. & S. F., 1454-D111 Seats, Double Rotating, 1454-D166\*
Seats, Rotating and Reclining Couch, 560\*
Sperry Detector, 628-D114†, '628-D152, 628D154
Tank; A. T. & S. F., 1454-D111
Tank; Commonwealth Cast Steel Underframe, 1548-D100\*
Tank for Carrying Helium, 1454-D38\*
Tank; General Chemical Company, 1454-D16
Truck, Buckeye Quick Wheel-Change, 1454-D31\*
Truck, Rubberized Passenger-Car, 1454-D41\*, 1548-D9
Truck, Taylor Flexible, 1454-D38\*
Trucks, Lateral Motion Device for, 1454-D99\*
Window Screens, 1454-D43\* Trucks, Lateral Motion Device for, 1454-D99\*
Window Screens, 1454-D43\*
Car End, Buckeye Steel, 1454-D40\*
Car-Hire Rules; Changes Required, 375, 982, 1143, 1487
Car Journal Bearings, Messinger, 1454-D35\*
Car Load, Average, 1924-1929, 33
Car Load Shipments (See Estimates)
Car Loading, Heavier, H. G. Taylor on, 1590
Car Loading, Heavier, Report on, 1590
Car Loading Plate, 835\*
Car Loading See also Freight Car Loadings)
Car Loading See also Freight Car Loadings)
Car Lumber Prices, Standards and, 1454-D56†, 1454-D88\*
Car Lumber, Treatment of, 384
Car Platforms, Diamonette Flooring for, 1454-D43\*
Car Repair Shop; Erie, 658
Car Retarders Facilitate Car Dumper Opera-Car Repair Shop; Erie, 658
Car Retarders Facilitate Car Dumper Operations; N. Y. C., 439\*
Car Retarders; Installations in 1929, 113
Car Retarders, New Specification on, 628-D99
Car Retarders, New Specification on, 628-D99
Car Retarders Save in Yard Operation; P. R. R., 1551†, 1584\*
Car Service Division, A. R. A.:
Equipment on Order, 356, 611, 780, 983
Gormley, M. J., on Car Situation, 1245
Unloading of Freight Cars, 173
(See also Freight Cars, 173
(See also Freight Cars, 173
Car Service, Report of Committee on, Transportation Div., A. R. A., 1187
Car Shop, Why Neglect the, 1454-D55†
Carbide Lantern, Signalman's, 1389\*
Cardwell Bolster Spring, 1548-D49\*
Cardwell Boring-Barrel Friction Draft Gear, 1454-D98\*
Cardwell Swivel-Butt Yoke, 1454-D32\*
Cardwell Swivel-Butt Yoke, 1454-D32\* 1454-D98\* Cardwell Swivel-Butt Yoke, 1454-D32\* Cardwell Type NZ-11-D Draft Gear, 1548-D52\* Carrier Engineering Corp.: Air Conditioning on Trains, 1454-D17 Carrier, Ureco Hinged Draft-Gear, 1454-D42\* Carrier, Ureco Hinged Draft-Gear, 1454-D42\*
Cars: (See also Car)
Cafe-Observation; C. & N. W., 966\*
Container; N. Y. C., and P. R. R., 1454-D15, 1454-D112\*
Decorations on N. P. Trains, 1371\*
Decorations on "The Columbine," 1465\*
Dining, Icing of, 1454-D36\*
Dining Service in Coaches; D. L. & W., 988
Dining Union Pacific 241\* Jining Service in Coacnes; D. L. & W., 988
Dining, Union Pacific, 241\*
Electrical Equipment, Application to, 1454-D106†
Enterprise Equipment at A. R. A. Convention, 1454-D111
First-Aid; C. N., 660\*
Fitting Materials to Service, 1454-D56†
Freight, Record in Furnishing, 230†
Freight, Unloading of, 173
Fusion Welding a Coming Process in Construction of, 1548-D56†
Gondola; B. & L. E., 1323\*
Hopper; Investigate New Materials Impartially, 1548-D98†
Hopper; P. R. R., 1454-D15, 1454-D111\*
Horse-Express; C. & N. W., 547\*
Loading and Handling, Report on, 1454-D162\*
Loung; Southern, 616

Lounge; Southern, 616 Lounge; S. P., 754\* Lubrication; Recommendations of A. R. A.

Committee, 131

Lubrication, Report on, 1454-D67\*

Motor Rail (See Rail Motor Cars)
Multiple Unit; D. L. & W. Tests, 1394\*
Multiple Unit Electric, Reading, 762\*, 764
Open Top Observation; U. P., 1396
Passenger, Electric Power for, 1548-D55†
Passenger, Trends in Design, 1548-D25†
Passenger, Water Heater for, 1548-D51\*
Pullman, Changes Since 1858, 1195\*
Refrigerator, Discussion of, 1490
Refrigerator; Divided Basket Bunker vs.
Brine Tanks, 1392
Refunds for Improper Charges, 1454-D125
Single Room Sleeping on P. R. R., 1607
Tank: General American, 1454-D16, 1454-D111
Tank, Report on, 1454-D135\*
Track, Safety Rules for, 1439
Cartel, Rolling Stock, in Europe, 1398
Cast-Steel Doors, Ajax, 1454-D101\*
Casting, Engine Bed; U. P., 654\*
Casualties, Employee; First Half of 1929, 250, Year, 937
Catenary System for the D. L. & W. Electrification, 1408\*
Cattle Moved by Truck, More, 543†
Cellar, Alco One-Piece Truck-Box, 1548-D95\*
Cellar, Ardco Truck, 1548-D91\*
Celotex Used in P. R. R. Travel Shop, 628-D50\*
Centenary of New England Railroads, 1203, 1375\* Centenary of New England Railroads, 1203, 1375\* 1375\*
Centenary of Pontchartrain Railway, 700
Centenary of the A. C. L., 487, 658
Centennial of Weighing, 628-D118\*
Center-Hung Baker Valve Gear, 1548-D80\*
Central Claim Conference at Kansas City, 1153
Central of Georgia:
Annual Report, 896 Annual Report, 896
Efficiency Trophies, 611
Mainor Family, 837
Motor Coach Substitution, 1542
Pensions, 1392
Central of New Jersey:
Annual Report, 1160
Cab Signaling on Single Track, 1174\*
Engineering Department Titles Change, 628D56
and Comfort Attracts Passangers Speed and Comfort Attracts Passengers, 769\* "Williamsporter, The," 264

Central Railway Club of Buffalo: Newman, W. H., President of, 628-D55

Central Union Bus Terminal, 515\*

Central Vermont:

Motorist Pays for Damaging Train, 1341

Receivership Ends, 411, 455\*, 1262

Valuation, Final, 942

Central Western Regional Advisory Board: Meeting of, 1259

Centralized Control:

Adapting to Existing Conditions, 1049†, 1058\*

Bingham & Garfield, 1058\* Adapting to Existing Conditions, 1049†, 1058\*
Bingham & Garfield, 1058\*
Chicago, Burlington & Quincy, 812\*
Delaware & Hudson, 989
Denver & Rio Grande Western, 332\*
Economies of, 631† 640\*, (M. P.) 812
(C. B. & Q.)
Effect on Traffic Capacity, 628-D203
Installations in 1929, 115
Missouri Pacific, 631†, 640\*, 1491
Paducah & Illinois, 141\*
Chaim Store Traffic League Formed, 842
Chairman McManamy of the I. C. C., 1548-D55†
Chairs, Hale & Kilburn Double Rotating, 1454-D166\*
Chamber of Commerce of the State of New York.
Statement on Consolidation of Eastern Trunk Lines, 1088
Chamber of Commerce of the United States:
Annual Meeting (Program) 880, 937
Business Men and Socialism, 1111†
Committee on Inland Waterways Authorized, 355
Rate Controversies, Informal Settlement of Urged, 777, 1079 Committee on Inland Waterways Authorized, 355
Rate Controversies, Informal Settlement of Urged, 777, 1079
Round-Table Conferences on Transportation, 1079
Champlain Coach Lines, Inc.; New Line Acquired, 314
Changes in Pullman Cars Since 1858, 1195°
Charger, Fansteel Full-Wave, 628-D170°
Chart, Routine, Greyhound Lines, 726°
Charters, Original Railroad, 935
Charters, Graphic, for Operating Problems, 913°
Chase Velmo Upholstery Fabrics, 1454-D35°
Chemical Proportioner, Electro-Magnetic, 1454-D46°
Chemicals, Signal Section's Report on, 628-D24
Chesapeake & Ohio:
Budgets for 1930, 260
Eastern Unification Plans, 404, 467, 894 (Application Withdrawn), 993
Interlocking and Either-Direction Signalling, 468°
Purchase Office at Cleveland, 1186° 468\*
Purchase Office at Cleveland, 1186\*
"Sportsman, The," 451, 493, 842, 905\*
Chevrolet-Hagans Connection; L. & N., 430\*
Chicago:
Express Terminal, C. & N. W. Plans, 971\*

Oil and Paint Store; C. & N. W., 329\*
Chicago Denver Train Service Improved, 1259
Chicago & Alton (See Alton Transportation Co.)
Chicago & Eastern Illinois:
Lease Instructions, 1191
Locomotive Fuel Tests, 599\*
Locomotives, Old, Junked Fast, 1222\*
Train Re-equipped, 1152
Valuation, Final, 942
"Zipper, The"; New Train, 1447
Chicago & Illinois: Midland: Rehabilitation of C.

"Zipper, The"; New Train, 1447
Chicago & Illinois Midland: Rehabilitation of C. S. & St. L. Proposed, 487, 880, 1252
Chicago & North Western:
Annual Report, 994
Cars, Cafe-Observation, 966°
Cars, Horse-Express, 547°
"Columbine, The," 1465°
Express Terminal at Chicago Planned, 971°
Gasoline Rail Motor Car Tests, 1548-D124°
Locomotives, 4-8-4 Type, 144°
"Minnesota Seed Special," 492
Motion Pictures; Chicago Terminal Activities, 405 Oil Handling Improved, 329\*
Talking Pictures on Trains, 1606
Train Time Shortened, 842, 939, 1089, 1208, 1259

1259
Trains, New; "The Advance"; "The Victory," 618, 953†, 966\*
Chicago Association of Commerce: Consolidation of Value from Transportation Angle, 916\*

of Value from Transportation Angle, 916\*
Chicago, Burlington & Quincy:
Annual Report, 1162
Centralized Control on 9 Miles of Double
Track, 812\*
Missouri Extension; Suit Started, 982
Engine Truck, 1548-D69
Great Northern Pacific Unification, 556, 834, 931, 972
Greyhound Lines, Interest in, 1019\*
Illuminated Tail Signs, 646\*
Perishable Freight Route from California, 1153
Purchase of Part of Line by G. N. and

Perishable Freight Route from California, 1153
Purchase of Part of Line by G. N. and N. P. Considered, 936
Train Time Shortened, 842, 1089, 1259
Trains Equipped, 560\* 590\*
Tree Planting Program, 1085
Chicago-Cleveland Car Roofing Co.:
Buckeye Steel Car End, 1454-D40\*
Journal-Box Lid with Inner Seal, 1454-D100\*
Chicago Great Western:
Control Changes Hands, 947
Felton, S. M., Death of, 653\*
"Minnesotan, The," 988
Train Time Shortened, 988
Chicago, Indianapolis & Louisville; Motor Coach and Air Transport Subsidiary Formed, 1392, 1542

and Air Transport Subsidiary Formed, 1392, 1542 Chicago, Milwaukee & Gary: Operation by C. M. St. P. & P., 879

St. P. & P., 879

Chicago, Milwaukee, St. Paul & Pacific:
Annual Report, 944

Boy Scouts as Railroaders, 450

Car, Dynamometer, 1581\*

Car Shop at Milwaukee, 356\*

Extended Locomotive Runs, 1422

Great Northern Pacific Unification, 556

Heating Apparatus for Electric Locomotives, 1548-D156

Interchange Track: Establishment of, 161 Interchange Track; Establishment of, 161
Locomotive Service, Developments in, 1419\*
Locomotive Service, Developments in, 1419\*
Locomotive Water Conditioner, 567\*
Locomotives, 4-6-4 Type, 559\*
Motor Coach Substitution Proposed, 534, 1544
Operation of C. M. & G., 879
Radio, Trains Equipped with, 680
Regenerative Braking on Electric Locomotives, 1548-D154
Special Conducted-Tour Trains, 1607
Train, New, 841
Train Time Shortened, 661, 842, 1089
Chicago-Pacific Coast Time War, 1089, 1208, 1396
Chicago Pneumatic Tool Co.: Self-Propelled Port-

Chicago Pneumatic Tool Co.: Self-Propelled Port-able Compressor, 1454-D103\* Chicago Railway Equipment Co.: Annual Report, 576

Chicago, Rock Island & Pacific:
Interlocking Plant with no Mechanical Locking, 373\*
Motor Transport Operations, Results of, 1513
Tabulating Machines, Use of Extended, 1315\*
Train Time Shortened, 173, 939, 1208
Chicago, St. Paul, Minneapolis & Omaha:
Annual Report, 996
Motor Trucks Extend Railway Service, 502†
504\*

Operating Trucks in Freight Service, 1035;
Truck Terminal at Sioux Falls, 1039
Chicago, Springfield & St. Louis; Rehabilitation
Proposed, 487, 880, 1252
Chicago World's Fair, Model Train for, 1438
Chicago World's Fair; Railway Exhibition, 392;,
1129\*
Chief of Engineers P.

Chief of Engineers Report on Mississippi River Project, 471 Chile:

e: Railway Operations in 1929, 125 Railway Progress, 1397 Transandine Railway Agreement with Argen-tina, 960 tina, 960
China: Railway Conditions in, 129
Chinese Government Railway: Results, 704
Christmas Celebration; Grand Central Terminal,

Cincinnati: Interlocking and Either-Direction Signaling; C. & O., 468\*
Cincinnati Terminal Operating Committee: Annual Report, 875
Cinder Pits, Locomotive; A. R. E. A. Report, 628-D144
Circulator, Martin; Tests of, 255\*
Claim Agency, The Public Relations View of, 1307†, 1318\*, 1322
Claim Agents' Annual Meeting, 1307†, 1318\*
"Claim Prevention" by the Consignee, 939
Claim Prevention, Station Agent and, 162
Claim Work, Co-ordinating Rail and Motor Coach, 1519\*
Claums:

1519\*
Claims:
Campaigns Reduce; M. P., 476\*
Freight Claim Prevention, Report on, 1469\*
Freight Claim Reduction, A. R. D. A. Discusses, 1598
Fruits and Vegetables; A. R. A. Discussion, 1220†, 1243, 1469\*
Payment of Excessive, 1220†, 1243
Payments in 1929, 888, 924\*, 1469\*
Prevention of; J. S. Fox on, 1121
Preventive Activities of Claim Conferences, 1469
Clamb, Wedge-Type Pipe, 1454-D47\*
Clark Gas-Powered Tractor Equipment, 1454-D53\*
Clark Manufacturing Co.:
Hook and Roller Bar, 1454-D48\*
Smith Coupling Jack, 1454-D48\*
Smith Pinch Bar, 1454-D101\*
Smith Wheel Pivot, 1454-D33\*
Classification of Material for Motor Coaches, 1454-D194
Classification of Material, Report on, 1454-D83\*

Classification of Material, Report on, 1454-D83\* Classification Yard, P. R. R. Installs Car Retarders in, 1551; 1584\* Classification Yards; Int. Ry. Congress Report,

1368 Clay Products, P. R. R. Tests Unit Loading of, 958

958
Clayton Act Hearing; P. R. R.—Wabash, 1240, 1332
Cleaning Solution, Okemco, 1548-D54
Cleaniness, Shop, Pays a Profit, 1008†
Clearance Diagrams for Buildings, Sheds and Platforms, 628-D143\*, 628-D189\*
Clearances, A. R. E. A. Report on, 628-D143\*
Clearing House for Railroad Accounts, 609‡
Cleveland: C. & O. Purchase Office, 1186\*
Cleveland Chamber of Commerce; Rate Resolution, 889

Cleveland: C. & O. Purchase Office, 1186° Cleveland Chamber of Commerce; Rate Resolution, 889
Cleveland, Cincinnati, Chicago & St. Louis: Annual Report, 1498
Cleveland Union Terminal, 1549†, 1553\* Damages for Train Derailed at Crossing, 983
Fire in Coach Paint Shops 658
Operation of E. I. & T. H.. 1490
Signals, Automatic, Savings from, 628-D23\*
Train, New, 616
Cleveland Union Terminal:
Dedication of, 1549†, 1553\*
Electrification Progress, 42\*
History and Personnel, 1580
Climax Engineering Company: Rail Car Engine Burns Distillate Fuel, 1074\*
Clock, Unique, in Great Britain, 1156
Clubs, Athletics Developed by; U. P., 1325\*
Coach Trains, De Luxe, 462†
Coach Trains, De Luxe, 462†
Coach (See also Car, Cars and Motor Coaches)

ch (See also Car, Cars and Motor Coaches)

1:
Canadian, Subsidy for, 1448
Commercial Stocks of, 489, 1207
Cost, Average, 71°
Cost of Moving in Canada, 406
Lost, Damages for, 571
Prospects for 1930, 72
Record for Unloading on P. R. R., 1490
Savings in 1929, 631°
1 Cars, Roller Bearings on; R. R. R., 395
1 Dumping Pier; P. R. R., 879
1 Operators File Complaint with I. C. C., 1207
1 Rate Hearing in Illinois, 574, 1396
1 Rate to Youngstown Disapproved by I. C.
C., 842

Coal Operators File Complaint with I. C. C., 1207
Coal Rate Hearing in Illinois, 574, 1396
Coal Rate to Youngstown Disapproved by I. C.
C., 842
Coal Rates, Lake Cargo, 702, 888, 1259, 1490
Coal Rates, Lake Cargo, 702, 888, 1259, 1490
Coal Traffic is Small, Why, 1221†
Coaling Plant, Efficient; Erie, 865\*
Coaling Plant, Efficient; Erie, 865\*
Coaling Plants, Steel Sand Tanks for, 628-D44\*
Cock, Ardco Safety Cylinder, 1548-D133\*
Cock, T.Z Blow-Off, 1548-D82\*
Code System of Communication; C. P. R., 584†
Coffing Hoists, 628-D207\*
College Men, Railroading as a Career for,
College Men, Railroading as a Career for,
College Students as Apprentices in Engineering and Maintenance, 628-D195
Colombia: Railway Progress in 1929, 126
Colorado & Southern: Annual Report, 1214
Coior Light (See Light Signals)
Color Schemes, Passenger Car, 543†
Colorado, Motor Coach Traffic in, 314
Columbia Terminals Co.: Dispatching System,
1527\*
Columbia Terminals Co.: New Shops Being Constructed, 314
"Columbia Terminals Co.; New Shops Being Comments on Passenger Traffic Merchandising, 698‡

1465\*
Comments on Passenger Traffic Merchandising, 698‡
Commissary Supplies, Report on, 1548-D41\*
Commission (See Interstate Commerce Commission)

Commissioner (See names of commissioners)
Commissioner's View of Valuation, A, 1068
Committee Appointed to Study Railroad Problems in Indiana, 396
Commodities Clause Suit Filed Against E, J. &
E., 1600

Commodities Clause Suit Filed Against E. J. & E., 1600
Commodity Car Loadings in 1929, 26
Commodity Values and Freight Rates, by M. O. Lorenz, 690, 785
Commonwealth Cast Steel Underframe for Santa Fe Tank Car, 1548-D100\*
Commonwealth Ps., of Australia: Results, 493
Communation Traffic at Peak, 1550†
Competition; Condition of Business, 11127
Competition in Transportation, 1550†
Competition, Is There Too Much, 1355†
Competition, Motor and Airplane, Superintendents Discuss, 1592
Competition, Motor Transport: Int. Ry. Congress Discussion, 1517
Competition, Subsidized, Labor Leaders and, 1455†
Competition, Unfair, and Self-Regulation of In-

Competition, Unfair, and Self-Regulation of In-

Competition, Unfair, and Self-Regulation of Industry, 419†
Competition, Unfair; Federal Trade Commission Investigations:
Swift & Company, 131, 140, 205, 479, 541†, 564, 598, 693, 771, 778‡, 929, 951
Waugh Equipment Company, 926, 1252, 1373, 1431, 1478
Competition, Unfair; Investigation Proposed by Senator, 419†, 438
Compressor, Self-Propelled Portable, 1454-D103\*
Concrete:

Compressor, Self-Propelled Formans,
Concrete:
Cribbing, D. L. & W., Uses, 628-D48\*
Failures of Masonry Walls and Foundations,
628-D172†, 628-D184
Pere Marquette Roadbed, 237\*, 1309\*
Roadbed Construction, P. Chipman on, 1308\*
Roadbeds Be Given Further Trial, Should,
1457†

Roadbed Construction, P. Chipman on, 1308\*
Roadbeds Be Given Further Trial, Should, 1457†
Vibrators, Electric, 628-D45\*
Condition of Business, 1112†
Conemaugh & Black Lick: Safety Plaque Winner, 1143, 1253
Conservation of Materials, Report on, 1454-D91\*
Conservation of Materials, Property, 1599
Consolidation and Valuation, 212
Consolidation Map, 244, 543†
Consolidation Procedure; H. F. Lane on, 243, 440 (Rules Adopted), 566
Consolidations:
B. & O. Acquisition of B. R. & P., 443
Delay Proposed, 834, 874, 931, 972, 1082, 1130, 1198, 1253, 1336, 1439, 1433, 1601
D. & R. G. W. Purchase of D. & S. L., Hearing on, 784, 839
Donnelly, Charles, on, 628-D157
Eastern Unification Plans, 404, 467, 566, 578, 879, 894, 993, 1108, 1159, 1263
Feasibility of I. C. C. Plan, 231, 337
"Fifth System" Plan Proposed, New, 1475, 1603
Great Northern Pacific Unification, 556, 834, Feasi "Fifth 1603

Great Northern Pacific Unification, 556, 834, 931, 972, 1082, 1483, 1601

I. C. C. Plan, 133†
Investigation Proposed by Senator Couzens, 1439, 1484

Labor Leaders Ask for Restrictions, 833
New England; N. Y. C. Attitude on, 938
New England; Sir H. Thornton on, 840
N. Y. Chamber of Commerce Statement, 1088

Parker, Fess Bill, 917

N. Y. Chamber of Commerce Statement, 1088
Parker-Fess Bill, 917
P. & W. V. Proposes new "Fifth System" Plan, 1475, 1603
Value from Transportation Angle, 916\*
Wabash Asks Control of W. & L. E., 1139, 1475 (Application withdrawn)
Consolidators, L. C. L., Who Should Control, 135†
Construction Contracts Show Increase, 983
Construction, New:
Alturas-Klamath Falls Line; S. P., 637\*
Branch Lines Opened by C. N. R., 1207
Bridge; Toledo Terminal Ry., 464\*
Cleveland Union Terminal, 1549†, 1553\*
Hudson Bay, Another Railway to, Proposed, 1144
Improvements at Montreal Planned; C. N. R.,

Inprovements at Montreal Planned; C. N. R., 681\*
K. C. S. Line in Missouri, 907\*
Klamath Falls Line Approved; C. N.-W. P., 1595\*, 1606
Lines in Southwest; A. T. & S. F., 357
Louisville & Nashville Extension, 430\*
Pennsylvania, Line Across, 346, 602\* (Brief of N. Y. P. & C.), 875
Suisun Bay Bridge; S. P., 1458\*
Turkish Railways, 1396
Winnipeg-Hudson Bay Short Line Surveys, 660

Winnipeg-Hudson Bay Snort Line Surveys, 660
Year ,1929, by G. E. Boyd, 52\*
Construction New (See also Railway Construction at end of index)
Construction Procedure for Electrification of Railroads, 672f, 674\*
Constructive Report, A, 628-D172†
Constructive Station (See Freight Trucking)
Container Corporation of America: Acquisition of Sefton Manufacturing Corporation, 264
Container Cars; P. R. R. and N. Y. C., 1454-D15, 1454-D112\*
Container Design Contest, 889
Contest Winners; P. & S. Division, 1202, 1454-D139\*
Continental Motors Corp.; Model 20-Z Engine,

Continental Motors Corp.; Model 20-Z Engine,

## GENERAL INDEX—Continued

[Illustrated articles are indicated thus\*; Editorials thus+; Letters to Editor thus+]

Contour Machine, Bethlehem Rail, 628-D167\* Contract Forms, Uniform General, 628-D67\* Contracts; Signal Section's Report, 628-D98\* Contracts; Why Not Place Them Early, 230† Contribution of the Air Brake to Transportation, Control, Centralized (See Centralized Control) Controlling Railway Supplies, Report on, 1 D38\*
Controversy on Hand Brakes, 655‡, 866
Convertionalities; June Dailies, 1457-D17, 1454-D60\*, 1454-D141, 1548-D9, 1548-D67, 1548-D111\*, 1548-D138
Conventionalities; March Dailies, 628-D4\*, 628-D54\*, 628-D116\*, 628-D173\*
Conveyor for Loading Scrap; M-K-T, 389\*
Co-operative Operation of Motor Coach Routes, 27† Co-ordinated Transportation; G. D. Ogden on, 1027\*
Co-ordinating Rail and Motor Coach Claim Work, 1519\*
Co-ordination; Elisha Lee on, 1221†
Copper & Brass Research Association; Electrification Survey, 397
Copper-Bearing Steel, Use of, 628-D147
Copper Wire Installations in 1929, 116\*
Coppus Locoblow, 1548-D87\*
Corley Pipe Connections, 1548-D132\*
Corrosion of Locomotive Boiler Tubes, 628-D68
Corrosion, Wet Grinding, Prevention of, 1454-D50 Corrosion of Locomotive Boiler Tubes, Corrosion, Wet Grinding, Prevention D50 Corrugated Roofing, Stronger, 628-D50\* Cost: Cleveland Union Terminal, 1554 Coal Movement in Canada, 406 Concrete Roadbed, 1311, 1457† Fuef, Should the Railways Expect Decreased, 1177 Fuel, Should the Railways Expect Decreased, 1177

Garage Construction, 1022
Locomotive Maintenance; C. M. St. P. & P., 1419\*

Maintenance of Motor Vehicles, How Close a Cheek on, 1034, 1294‡, 1539‡

Material Handling, Reducing, 1313\*
Motor Coach Operations, 1454-D143
Ohio River System, 319†, 323\*
Railway Buying, 322†
Stopping a Train, 1548-D98†
Supply Handling In Winter, 371†
Transportation, Helping Shippers Reduce, 585†
Cost Data, Best Methods of Keeping, 628-D195
Cost Data, Superintendents', Report on, 1591
Cost' Finding for Manufacturing in Railroad Shops, 1454-D96, 1454-D166†
Cost of Reproduction in Valuation, I. C. C. Appeal to Congress, 321†, 334
Cost Records, Daily; M. P., 1247\*
Cottor Rates, Barge-Rail, 174
County Transportation Co., Inc., Preventive Maintenance Reduces Road Calls, 1514\*
Coupler And Strainer, T-Z Tender-Hose, 1548-D53\*
Coupler, Radial: American Steel Foundries, 1454-Coupler Radial: American Steel Foundries, 1454-Coupler Head, Gold Steam-Hose, 1454-D102\* Coupler, Radial; American Steel Foundries, D31\* Coupler Release Rigging, Rotary, 1454-D33\* Couplers, Report on, 1548-D3†, 1548-D26\* Couplers, Standard D and Type E, Tests of, Coupiers, Standard D and Type E, Tests of, 1548-D31
Coupiers, Swivel or Radial Butt, Report on, 1548-D32
Coupiers, Type D; Recommendation of A. R. A. Committee, 131
Coupiers, Welding of, 1548-D45\*, 1548-D97†
Couping, Flexible Pipe, 870\*
Couping, Flexible Pipe, 870\*
Couping, Senators, Consolidation Investigation Proposed, 1439, 1484
Couzens Resolution; Unification Delay, 834, 874, 931, 972, 1082 (Revised), 1130, 1198, 1253, 1336, 1439, 1483, 1601
Covington: Interlocking and Either-Direction Signaling; C. & O., 468\*
Crane, Elwell-Parker Heavy Duty, 1548-D51\*
Crane, World's Largest Railway, 910\*
Crank Pins Shrunk by Liquid Air; S. P. & S., 982
"Crates for Commercial Refrigerators," 988

Crank Pins Shrunk by Liquid Air; S. P. & S., 982

"Crates for Commercial Refrigerators," 988
Credit Where Credit is Due, 1583
Creosoted Douglas Fir in Dock and Bridge Construction, 385
Creosoted Pole Industry, Developments in, 1241°
Crerar, Thomas A., Minister of Railways, 213°
Crescent Limited, Record of, 1207
Cribbing, Concrete, D. L. & W., Uses, 628-D48°
Crosby Safety Valve, 1548-D92°
Crosshead Pin Ejector, 1548-D132°
Crosshead Shoes, Hunt-Spiller, 1548-D132°
Crosshead Shoes, Hunt-Spiller, 1548-D132°
Crosshead, Union Type T, 1548-D82°
Crosshead, Union Type T, 1548-D82°
Crosshead, Union Type T, 1548-D82°
Crosshead; National Conference on Street and Highway Safety Report, 1137, 1342, 1387
Accidents; National Conference on Street and Highway Safety Report, 1137, 1342, 1387
Accidents, Report on, 1589
A. R. E. A. Report, 628-D53†, 628-D76°
Barrier, Yielding Positive, 869°
Bond Issue for Elimination Proposed in California, 879
Claims and Accidents, 1321

committee Appointed on Protection, 628-D114†
628-D117, 1081
Cost of, New York State, 260, 397
Discussions in New Jersey, 404
Elimination-Crossings or Careless Motorists?
1-271, 1473\*
Elimination of; A Problem of Education, 1049†
Eliminations; Hours of Labor, 1085
Flag Protection for Obstructions, 752†
Form for Recording and Reporting Accidents, 628-D78
Grade Separation—Is It the Solution for Crossing Accidents? 1457†, 1473\*
Guard Aprons to Protect, 628-D170\*
Illinois, Elimination in, 846
Incredible in the Situation, The, 1356†
Litigation, A Novel, 1144
Methods and Forms for Maintaining a Record of, 628-D181
New York City Elimination, 879, 982
New York, Elimination in, 879, 1085
Protection; Committee Appointed by A, R, A, and A, R, E, A., 628-D114†, 628-D117
Protection; Report of National Conference on Street and Highway Safety, 1137, 1342, 1387
Protection, Signal Section on, 628-D104\*
Railway Executives Comment on, 14\*
Report on; California, 260
Signal Protection, 628-D104\*
Signal Protection, 628-D104\*
Signal Protection, 628-D104\*
Signal Protection, 628-D104\*
Signal Recommended for, 628-D170\*
Survey in Missouri, 495
Thin Floors for Grade Separation Structures, 853†
Cross-Over Bridges, Whiting Electric, 1454-D48\*
Crossties (See Ties)
Crystal Manufacturing Co.: Illuminated Tail Signs, 646\*
Cuba: Railway Conditions in, 127
Cullett, Elizabeth (See Books and Articles)
Cup and Dispensing Cabinet, Ajax, 483\*
Cup Dispenser, Ajax, 1454-D39\*
Cuvahoga Valley Viaduct, 1576\*
Culific Elizabeth (See Books and Articles)
Cup and Dispensing Cabinet, Ajax, 483\*
Cup Dispenser, Ajax, 1454-D39\*
Cuvahoga Valley Viaduct, 1576\*
Culific Elizabeth (See Books and Articles)
Cup and Dispensing Cabinet, Ajax, 483\*
Cup Dispenser, Ajax, 1454-D39\*
Cuvahoga Valley Viaduct, 1576\*
Culific Elizabeth (See Books and Articles)
Cup and Dispensing Cabinet, Ajax, 483\*
Cup Dispenser, Ajax, 1454-D39\*
Cuvahoga Valley Viaduct, 1576\*
Cup and Dispensing Cabinet, Ajax, 483\*
Cup Dispenser, Ajax, 1454-D39\*
Curahoga Valley Viaduct, 1576\*

D

Daily Records Aid Operations, 1247\*
Danger in High Stock Prices, The, by M. P. Taylor, 561
Danish State Railways: Progress in Recent Years, 123
Dairy and Poultry Train; N. P., 215
Davidson, W., Address of, 1454-D70\*
Davis Bottom Rod Guard, 1454-D40\*
Davis Journal-Box Lid, 1454-D100\*
Dearborn Chemical Co.: Prevention of Wet Grinding Corrosion, 1454-D50
DeCamp Bus Lines, Inc.: Notes, 1041, 1542
Decline in Railroad Employment, 1169†
Declining Growth of Railway Freight Traffic, 13051
Decoration: Color Schemes, Passenger Car, 543†
Decoration: N. P. Trains, 1371\*
Decoration: N. P. Trains, 1465\*
Delaware & Hudson:
Centralized Control, 989
Clayton Act Hearing; P. R. R. Stock Purchase, 1240, 1332
Eastern Unification Plans, 404, 467, 879, 1159, 1263
Employment, Stable, 1418
Insurance, Group, 1418
Locomotive Throttle Valve, Wagner, 1548-D90\*
Pacific Type Locomotive Equipped with Poppet Valves, 767\*, 1548-D69
Delaware, Lackawanna & Western:
Annual Report, 801
Catenary System, 1408\*
Cribbing, Concrete, 628-D48\*
Dining Service in Coaches, 988
Electrification Progress, 42\*, 488
McHale, R., Record Veteran, 1605
Multiple Unit Cars Tested, 1394\*
Terminal Warehouse at Jersey City, 701, 816\*
Delaware. New Transport Corporation Formed in, 314
De Luxe Coach Trains, 462†
Demonstration Locomotive; Timken 4-8-4 Type, 1225\*, 1548-D69
Demourtage Charges, P. R. R. Fined for not Collecting, 1490
Demurrage, Report of Committee on, Transportation Div., A. R. A., 1187
Denmark: Railway operations in 1929, 123
Denney, C. E.; Address Before Division VI, 1454-D80\*
Denver & Rio Grande Western:
Centralized Control, 332\*
D. & S. L., Hearing on Control of, 784, 839
Motor Transport Operations, Results of, 1512

Denver & Salt Lake:
D. & R. G. W. Control, Hearing on, 784, 839
Moffat Tunnel Hearing, 1202
Passenger Rates Reduced, 1088 Denver Colorado Springs-Pueblo Motor Way:
Maintenance Costs, 1294
Operating Costs, 740‡
Passenger and Express Motor Coach Body,
734\* Operating Costs, 7494
Passenger and Express Motor Coach Body, 734\*
Department of Commerce: Locomotive Shipments, 936
Depreciation:
Edwards, T. O., on, 1117
Rate of Return, 134†
Depreciation Accounting, 134†, 227†
Derailment (See Accidents)
Derails, Elimination of, 194
Design of Locomotives, Possibilities in Refinements of, 673†
Design, Trends in Passenger Coach, 1548-D2†
Designing for Convenience and Efficiency in the Motor Coach Garage, 1021
Designs; Signal Section's Report, 628-D21\*
Detector Car, Sperry; A Satisfactory Record, 628-D114†, 628-D152, 628-D156
Detroit & Toledo Shore Line: Banquet in Enginehouse, 1446\*
Detroit Automatic Oil Reducer, 1548-D88\*
Detroit Automatic Oil Reducer, 1548-D88\*
Detroit Model B Locomotive Mechanical Lubricator, 1548-D83\*
Detroit, Toledo & Ironton: Facilities Consolidated with P. R. R., 701
Developing Summer Tourist Traffic, 1292, 1541‡
Development of Fuel Conservation on Erie, 1178
Development of Modern Signaling; A. H. Rudd on, 450
Developments in the Creosoted Pole Industry, 1241\*
Dexter Reseating Tools for Feedwater Heater, 1548-D96\* Developments in the Creosoted Pole Industry, 1241\*

Dexter Reseating Tools for Feedwater Heater, 1548-D96\*

Diamonette Flooring for Car Platforms, 1454-D43\*
Diehl Positive Drive, 1548-D78\*
Diesel Engine in Mercedes-Benz Vehicles, 1454-D44\*
Diesel Engines, Light-Weight, 73!
Diesel Locomotives; I. R. F. A. Report, 1134\*
Dining Car Supplies, Report on, 1548-D41\*
Dining Cars for the Multitude; D. L. & W., 988
Dining Cars, Icing of, 1454-D36\*
Direct Steaming Facilities on G. N., 203\*; T. H. & B. 1360\*

Birct Steaming System; A. R. E. A. Report, 628-D145

Dirt Collectors with Improved Drainage, 1454-D101\*

Dispatcher-Control (See Centralized Control) Dispatcher-Control (See Centralized Control)
Dispatching Plan for Motor Haulage, 1274\*
Dispatching Plan for Motor Haulage, 1274\*
Dispatching System; Columbia Terminals Co., 1527\*
Disposing of Worn-Out Equipment, 311\$, 739\$
Distillate Fuel, Rail Car Engine Burna, 1074\*
Distribution of Material, Report on, 1454-D156\*
Distribution Valve, Pyle-National Duplex, 1548D77
Dividend Changes in 1929, 64
Dividend Disbursement Changes, 1923-1929, 63\*
Dodge Chassis Converted to Rail Motor Car by
Koppel, 1436\*
Door Lock, Drop-End, for Gondola Cars, 1454D165\*
Door, "Tower, with Emergency Hand Chain, 628-Door, Tower, with Emergency Hand Chain, 628-Di67\*.

Doors, Ajax Cast-Steel, 1454-D101\*
"Dope" Laundry; A. C. L., 425\*
Double-Lug Brake Shoe, 1548-D52
Double Rotating Chairs, Hale & Kilburn, 1454-D166\* Douglas Fir, Creosoted; Dock and Bridge Con-Douglas Fir, Creosoted; Dock and Bridge Construction, 385

Douglas Fir, Treated, on S. P., 385

Draft Appliances, Standing Tests Offer Practical Means for Studying, 1181

Draft Attachments, Selective Travel, 1454-D36\*

Draft Gear, Cardwell Spring-Barrel Friction, 1454-D98\*

Draft Gear, Cardwell Type NZ-11-D, 1548-D52\*

Draft Gear, Cardwell Type NZ-11-D, 1548-D42\*

Draft Gear, Goodwin Leaf Friction, 1454-D98\*

Draft Gear, Peerless Hylastic-Steel Friction, 1454-D41\*

Draft Gear Recoil Limit Tentative, 1548-D26, 1548-Draft Genr. Peerless Hylastic-Steel Friction, 1454-D41\*

Draft Gear Recoil Limit Tentative, 1548-D26, 1548-D57†

Draft Gear Report an Outstanding Contribution, 1548-D3†, 1548-D26\*

Draft Gear, Waugh Double-End Friction, 1454-D100\*

Draft Gears, India-Rubber, 1454-D166\*

Draft Gears, India-Rubber, 1454-D166\*

Draft Gears, Recommendation of A. R. A. Committee, 131

Draft Gears, Report on, 1548-D3†, 1548-D26\*

Praft Gears, Specifications for, 1548-D3†, 1548-D28\*

Draper Flue Rumbler, 1548-D81\*

Dri-Steam Valve, 1548-D89\*

Drifting-Control Valve, Worthington Heater, 1548-D91\*

Drifting Valve, Hanlon, 1548-D92\*

Drifting Valve, Hanlon, 1548-D92\*

Drill, Sioux Electric, 1537\*

Drill, Thor No. 253Y Rotary Pneumatic, 1454-D50\*

Drill, Thor No. 275 Rotary Pneumatic, 1454-D50\*

Drilling Machine, Braun Radial, 1454-D51\*
Drills, Stanley Portable, 1454-D51\*
Drive, Diehl Positive, 1548-D78\*
Drivers (See Motor Coach Drivers)
Drop-End Door Lock for Gondola Car, 1454-D165\*
Duluth & Iron Range: Operation by D. & M. N.,
260
Duluth & Iron Range: Safety Plaque Winner,
1143, 1253
Duluth, Missabe & Northern: Operation of D. &
I. R., 260
Duplex Distribution Valve, Pyle-National, 1548-D77
Dynamometer Car; C. M., St. P. & P., 1587\*
Dynamometer Car vs. Standing Tests, 1182

E Earnings, Railroad Traffic and, 751†, 1406†
Earnings, Recapture of, Under the Howell Bill, 851†
Earnings (See also Revenues and Expenses)
East African Railways: Notes, 407\*
Eastern Unification Plans, Withdrawal of, 404, 467, 566, 578, 879, 894, 993, 1108, 1159, 1263
Eastman, Commissioner: Depreciation Accounting, 134†, 227†
Eastman, Commissioner; Railroad Ownership Investigation, 871, 928
Eastman, Commissioner; Valuation, 321†, 334
Economic of Railway Labor, 628-D193\*
Economics of Railway Labor, 628-D193\*
Economics of Railway Depration, Report on, 628-D203\*
Economics of Signaling, 628-D1†, 628-D23\*
Economics of Signaling, 628-D1†, 628-D23\* D203\*
Economies of Signaling, 628-D1†, 628-D23\*
Economies; Concrete Roadbed, 1310
Economies: Facing the Future, 1548-D1†
Economies in Operation, 2†
Economies in Operation, Future in, 13\*
Economies of Centralized Signal Control, 631†, 640\* (M. P.) 812 (C. B. & Q.)
Economies: Weight of Rail, K. C. S. Study, 1220†, 1231\* Economy and Safety, Relationship Between, 1548-D162†, 1548-D167\* Economy, Fuel (See Fuel) Economy Water-Level Indicator for Tenders, 1548-D93\* Economy Water-Level Indicator for Tenders, 1548-D93\*

Ecuador: Railway Progress in 1929, 127
Eddystone, General Steel Castings Plant at, 176, 1548-D103\*

Education, A Problem of, 1049†
Education and the Railroads, 371†, 876‡
Education of Farm Women; B. & O., 1344
Edwards Locomotive Cab Window-Sash, 1548-D95
Edwards Window and Ventilator Exhibit, 1548-D95
Effect of Changes in Passenger Schedules, 953†
Efficiency, Measuring Purchasing Department, 1548-D36\*
Efficiency, Operating (See Operating Efficiency)
Efficiency, Operating (See Operating Efficiency)
Efficiency Trophies; C. of G., 611
Eisemann Magneto Designed for High Speed Engines, 1632\*
Electric Adding Machine, Burroughs, 1435\*
Electric Driven Boring Bar, 528\*
Electric Fuel Feed System, Stewart-Warner, 738\*
Electric Hammers, Stanley-Ajax, 1548-D92\*
Electric Locomotives (See Locomotives)
Electric Power for Passenger Cars, 1548-D55†
Electric Refrigeration, 1548-D146
Electric Refrigeration, 1548-D146
Electric Rolling Stock, Report on, 1548-D135†. 1324\* Electric Refrigeration, 1548-D146 Electric Rolling Stock, Report on, 1548-D135†, 1548-D154\* tric Service Supplies Co.: Headlight, Golden Glow, 1548-D77\* Headlight Switches, Locomotive, Keystone, 1548-D80\*
Electric Tamper & Equipment Co.: Vibrators, Electric, 628-D45\*
Electric Traction Tendencies, 1548-D98†
Electric Trucks, Elwell-Parker, 628-D46\*
Electric Valve Grinder, 528\*
Electric Vibrators Improve Concrete, 628-D45\* Electric Wrench, Syntron, 628-D43\* Electrical Division, A. R. A. Proposed, 1548-D56† Electrical Equipment, Application to Passenger Cars, 1454-D166† Electricity, A. R. E. A. Report, 628-D171†, 628-D190\* Electricity, A. R. E. A. Report, 020-D1711, 020-D190\*

Electrification:
A. I. E. E. Discussion, 689
Catenary System for the D. L. & W., 1408\*
Cleveland Union Terminal, 1566\*
Construction Procedure for, 672†, 674\*
D. L. & W. Progress, 41\*, 488
Doylestown Branch; Reading, 1254
Maintenance of Equipment on Steam Railroads, 825
Oeste de Minas Ry., 1345
Pennsylvania Extends Operation, 1607
Piedmont & Northern, 911\*
Programs, Status of, 41\*
Prospects of. 544\*
Reading, 41\*, 214 (Power Contract), 761\*
Survey; Copper & Brass Research Association, 397
Swiss Federal Railways, 662
Electro-Magnetic Chemical Proportioner, 1454-D46\*
Electro-Mechanical Riveting Machines, 1454-D52\*

Electro-Motive Company:
Gas-Electric Locomotive, 1548-D73\*
Rail Cars; M. & St. L., 475\*
Elevator, Manley Pneumatic, 1291\*
Elgin, Joliet & Eastern; Commodities Clause Suit Filed Against, 1600
Elimination—Crossings or Careless Motorists?, 1457†, 1473\*
Elimination of Superheater Dampers, 1180
Elimination of Waste, 1048†
Eliis, Frederick W. (See Waugh Equipment Co.)
Elwell-Parker Electric Trucks, 628-D46\*
Elwell-Parker Heavy Duty Crane, 1548-D51\*
Employee:
Air Brake, "Training and Supervision of, 1194 nployee:
Air Brake, "Training and Supervision of, 1194
American Federation of Labor Seeks Five-Day
Week, 1394, 1487
Athletics Developed Through Clubs on U. P.,
1325\* Week, 1944, 1430.
Athletics Developed Through Clubs on U. P., 1325\*
Casualties, First Half 1929, 250, Year, 937
Clubs, Frisco; Business Secured, 616
Engineman Honored on N. Y., N. H. & H., 1487
Five-Day Week Program, 1394, 1487
Golf Club Opened; P. R. R., 1392
Hours of Labor; N. Y., 1085
Insurance, Group Life, 1202, 1392, 1418
Insurance Systems; M. P., 923
Interviewing Prospective, 1335
Is Further Stock Sale Timely?, 322†
Labor Injunction Sustained on T. & P., 1341
McHale, R., D. L. & W. Record Veteran, 1605
Mechanical Force Stabilization, 422†
Medals for Valor, 450, 611, 658, 1085
Number, Middle of Month; March, 1202, April, 1606
Number in 1929, 29
Oldest Railway Employee, 700
Orly Woman in Shop; U. P., 610
Passes to; M. P., 260, 354
Pensions; C. of G., 1392
Pensions; C. of G., 1392
Pensions; N. Y. C., 611
Safety (See Safety)
Shop Crafts Seek Five-Day Week, 1394, 1487
Shop Workers, Six-Day Week for; P. R. R., 355
Stock Offer; N. Y. C., 4217, 937
Stock Coffer; N. Y. C., 4217, 937 Salety (See Sales, 1394, 170)
Shop Crafts Seek Five-Day Week, 1394, 170)
Shop Workers, Six-Day Week for; P. R. R., 355
Stock Offer; N. Y. C., 421†, 937
Supply Forces, Training of, 1454-D163\*
This Machine Age—Where is It Leading Us?, 1075 1075
Training of, 628-D193
Training of; Int. Ry. Congress Report, 1369
Trainmen's Demands; Erie, 162
Trophies, Efficiency; C. of G., 611
Vocational Training, Need for, 1357† Vocational Training, Need for, 1357†
Wages:
Statistics, Monthly, 212, 450, 611, 658, 852†,
879, 1252, 1392
Wages—Increases:
L. & N. Clerks, 395
N. & W. Clerks, 395
Watchman Sentenced; Erie, 982
Widening Railroad Ownership, 852†
Youngest Veteran, 935 Youngest Veteran, 935

Employees, Maintenance (See Maintenance)
Employment and Promotion, Refort on, 1588
Employment, Problem of, 1548-D99†
Employment, Railroad, and Labor Leaders, 1455†
Employment, Railroad, Decline In, 1169†
Employment Stabilization; General Electric Co.,
Employment Stabilization; General Electric Co., Employment, Stable, on the D. & H., 1418
Enduro on the Firebox Plate, Tests of, 1548-D134
Engelmann Spruce Ties, Preservative Treatment of,
387 Engelmann Spruce Ties, Preservative Treatment of, 387
Engine Bed Castings; U. P., 654\*, 1548-D70\*
Engine Runs, Long, Advantages of, 1593
Engine (See also Locomotives)
Engine Terminals:
Great Northern at Seattle, 203\*
Report of Mech. Div., 1548-D163†, 1548-D170\*
T. H. & B., at Hamilton, 1358\*
Engine Truck, C. B. & Q., 1548-D69
Engineering Trainmaster on Work Trains, 463†
Engineers Are Hard to Sell, Why, 1552†
Engineers, Licensing and Registering of, 628-D76
Engineers, Model, New York Society of, 449
Engineers Reunion, Twenty-First, 609‡, 628-D117
Enginehouse, D. & T. L. S. Stages Banquet in, 1446\*
Enginehouses; Direct Steaming System, 628-D145, Enginehouses; Direct Steaming System, 628-D145, G. N., 203\*; T. H. & B., 1360\*
Enginemen Honored on N. Y., N. H. & H., 1487 Enginemen Honored on N. Y., N. H. & H., 1487
Engines:
Autocar Blue Streak, 1288\*
Continental Model 20-Z, 307\*
Diesel in Mercedes-Benz Vehicles, 1454-D44\*
Diesel, Light-Weight, 731
Eisemann Magneto for High Speed, 1032\*
Mack AP, 1548-D77\*
Maintenance of, 1025\*
Motor Coaches, 304\*, 307\*
Oil, 1548-D135†
Rail Car, to Burn Distillate Fuel, 1074\*
Waukesha, 304\*
Why They Wear Out, 1273
Engines (See also Locomotives)
Enterprise Equipped Cars at A. R. A. Convention, 1454-D111
Environment, A New, 1454-D1†
Equipment:
Condition, 1924-1929, 31\*
Condition of, 1048†

Effect of Rail on, 1235\*
Electric, Maintenance of, 825
In Need of Repair, 615
Installations in 1929, 28
Labor-Saving, Use of, 4†
On Order, 356, 611, 780, 983
Orders in 1929, 78\*, 85\*, 94\*, 99\*, 104\*
Orders, Unfilled, 1929, 29
Prices in 1929, 74\*
Purchases, 1924-1930, 1417
Retirements in 1929, 28
Trends in 1929, 34, 39\*
Equipment, Motor Coach, Modernized; N. E. T., 523\*
Equipment, Motor Vehicle, Controlling the Speed 523\*
Equipment, Motor Vehicle, Controlling the Speed of, 521\*
Equipment, Worn-Out, Disposing of, 311\$, 739\$
Equipment (See also Car; also Locomotives; also Motor Coaches, etc.) Equipment (See also Car; also Locomotives; also Motor Coaches, etc.)

Erie:

Coaling Plant at Meadville, 865\*
Compromise with Trainmen, 162

"Erie Limited" Plaque Presented, 163\*
Fuel Conservation, Development of, 1178
Repair Shop for Passenger Cars, 658
Watchman Sentenced, 982

"Erie Limited"; Glorification of, 163\*
Essay Contest; Purchases and Stores Division, 1202, 1454-D139\*

Estimates of Carloading, 146, 173, 265, 406, 661, 702, 785, 832, 842, 1090, 1345, 1447, 1448, 1610
Estonian Railways in 1928-29, 1154
Europe, Lessons from, 1548-D137†
Europe: Rolling Stock Cartel Formed, 1398
Evansville, Indianapolis & Terre Haute: Operation by C. C. C. & St. L., 1490
Ever-Present Hot-Box, The, 585†

"Eversure" Safety Switch Lock, 351\*
Every-Day Problems of Motor Coach and Truck Operation, 309\*, 529\*, 739\*, 1034\*, 1292\*, 1538\*
Excessive Entertaining Not Good Business, 1454-Excessive Entertaining Not Good Business, 1454-Excursions to Cleveland and Toledo; P. R. R., 1153
Executives, Finding Next Year's, 1008†
Exhibit at the Coliseum, 628-D37, 628-D25\*
Exhibit, Freight and Passenger Car, 1454-D14\*
Exhibition Trains, Model; M. P., 1251\*
Exhibitors: Excessive Entertaining Not Good Business, 1454-D1†
What Constitutes an Opportunity?, 1454-D1† What Constitutes an Opportunity?, 1454-D1†
Exhibits, Atlantic City (See Railway Supply Manufacturers' Association)
Exhibits (See also names of associations)
Expenditures:

C. N. R. in 1930, 839, 1252
C. P. R. in 1930, 492
Capital, in 1929, 636
Capital, 1930, 11\*, 19\*, 28, 1243, 1417
Capital, 1923-1929, 28
Capital, 1924-1930, 1417
Maintenance of Way in 1929, 43\*
Planning Now for 1931, 1548-D97†
Purchases, 1923-1929, 1416\*
Railways Exceed Hoover Pledge, 1219†, 1243
Express Motorways, Commission to Study, 1207
Express Terminal at Chicago Planned; C. & N.
W., 971\*
Express Traffic, What About, 1034, 1293‡, 1538‡
Expression of Confidence, An, 1548-D137
Extended Locomotive Runs; C. M. St. P. & P.,
1422
Extended Piston Rods, Comment on, 980‡ Extended Locomorive Runs; C. al. St. 2. a., 1422
Extended Piston Rods, Comment on, 980‡
Extending Railway Service by Motor Truck Operation, 502†, 504\*
Extension of K. C. M. & O. Opened, 1607
Extra Fare Investigation, I. C. C., 481, 888, 1381

Facing the Future, 1548-D1†
"Facts and Figures of the Automotive Industry,"
1299
Failures of Masonry Walls and Foundations, 628-D124, 628-D184
Fairbanks, Morse & Co.: Annual Report, 706
Fairmont Railway Motors, Inc.; Demountable Wheel for Motor Cars, 352\*
Families, Railroad, 837, 878, 1084
Fansteel Full-Wave Charger with Ammeter, 628-D170\*
Fansteel Resistance Unit, 628-D46\*
Fansteel Small Power Unit, 628-D111\*
Fares (See Passenger Fares)
Farm Lectures in Ontario, 1153
Farm Women, Education of; B. & O., 1344
Farmers to Tour Pacific Northwest, 1153
Farmers Tour on P. R. R., 492
Fast Freight Shipments, 173
Fast Trains, New, 174, 215, 661, 1396
Fast Trains, N. Y. to Philadelphia; P. R. R., 493
Fastest Long Distance Train; C. N. R., 888, 1054
Fate-Root-Heath Co.: Gas-Electric Locomotive, 1548-D73
Father and Son in Cab, 700
Father and Son Pensioners, 570
Federal Model T-10 Truck, 1030\*

## GENERAL INDEX-Continued

[Illustrated articles are indicated thus\*; Editorials thus\*; Letters to Editor thus\*]

Federal Trade Commission:

"Reciprocal Buying" Investigations:

Swift & Company, 131, 140, 205, 419†, 438, 479, 541†, 564, 598, 693, 771, 778‡, 929, Swift & Company, 131, 140, 205, 419f, 438, 479, 541f, 564, 598, 693, 771, 778‡, 929, 951f
Waugh Equipment Company, 926, 1252, 1373, 1431, 1478
Feedwater Heater, Dexter Reseating Tools for, 1548-D96\*
Feedwater Heater; Drifting-Control Valve, 1548-D95\*
Feedwater Heater; Water Conditioning Apparatus, C. M. St. P. & P., 567\*
Felton Collection of Locomotive Models, 935\*
Felton, Samuel M., Death of, 653\*
Ferries; Operation by S. P., 187\*
Ferry Charges Reduced, P. R. R., 842
Field Organizations for Railway Location and Construction, Size and Character of, 628-D202
Fifth Avenue Coach Company: Motor Coach Terminal at New York Planned, 314
"Fifth System" Plan Proposed, New, 1475, 1603
Fiftieth Anniversary of A. S. M. E., 881
Final Valuation (See Valuation)
Financial Results in 1929, 26
Finding Next Year's Executives, 1008†
Finland: Motor Coach Mileage, 314
Fire-Door Closer, Shoemaker, 1548-D95\*
Fire Extinguisher, Pyrene Pump-Type, 1454-D47\*
Fire in Coach Paint Shops; C. C. C. & St. L., 658
Fire Losses, What Constitutes Appraisal of?, 628-D188\*
Fire Prevention in Storehouses, Report on, 1454-D155\* 628-D188\*
Fire Prevention in Storehouses, Report on, 1454D155\*
Fire Protection on Canadian Railroads in 1929, 888
Firebox for Oil-Burning Locomotives, Tests of, Firebox for Oil-Burning Locomotives, Tests of, 255°
Firebox Plate, Tests of Enduro on the, 1548-D134
Fireless Engine Terminal; G. N. at Seattle, 203°
Fireses Engine Terminal; T. H. & B., 1558°
Fireses, Miscellaneous, 456, 879, 1439
Fires, Railroad, Statistics on, 1454-D155
First Aid Cars; C. N., 660°
First Railway in America, 259
Fissures, Transverse (See Transverse Fissures)
Fitting Materials to Service, 1454-D567
Flag Protection for Crossing Obstructions, 752†
Flanged Wheels for Ford Cars, 1198°
Flat Car, P. R. R. Well-Type, 1454-D16
Flexible Freight Car Trucks, 1454-D38°
Flexible Freight Car Trucks, 1454-D38°
Flexible Pipe Coupling, 870°
Flood Protection, Levees and Dykes for, 628-D198
Flooring, Diamonette, for Car Platforms, 1454Floors, Thin, for Grade Separation Structures, 853† Floors, Thin, for Grade Separation Structures, 853†
Florida: Winter Travel to, 388
Floridene Stone, 628-D49\*
Flue Rumbler, Draper, 1548-D81\*
Ford Model "A." Flanged Wheels for, 1198\*
Forecasting the Volume of Traffic, 1183\*
Forest Products, Report on, 1454-D56†, 1454-D88\*
Forgings, Byers Warney D88\*
Forgings, Byers Wrought-Iron Locomotive, 1548-D132
Forgings, Nitrided, 1548-D53
Forming and Threading Machine, 1454-D49\*
Forms, Uniform General Contract, 628-D67\*
Formula for Computing Tractive Force of Locomotive Boosters, 1548-D152
Formula for Determining Comparative Economies of Flat and Hump Yard Switching, 628-D204
Fourth Section Amendment Proposed, 1259, 1384, 1490
Fracture Problem on Railroads, The, 776 Fracture Problem on Railroads, The, 776

Fracture Frobent on Assertance:
Railway Operations in 1929, 120
Remote Control for Locomotives, 1154
Franklin Railway Supply Co.; Highway Crossing
Barrier, 869\*
Freight Business, Prospects for 1930, 9\*
Freight Business, Trend in 1929, 1†
Freight Business, Trend in 1930, 421†
Freight Car Inspection Pit, 1454-D105†, 1454-D118\*
Freight Car Loadings: Business is Improving,

Freight Car Inspection Pit, 1454-D105†, 1454-D118\*

Freight Car Loadings: Business is Improving, 953†

Freight Car Loadings: Weekly Reports, 152, 189, 240, 331, 376\*, 436, 478, 555\*, 592, 642, 680, 768, 822\*, 874, 928, 958, 1067\*, 1128, 1182, 1246, 1314, 1363\*, 1414, 1472, 1600

Freight Car Loadings: Year 1929, 25\*

Freight Car Movement, 1924-1929, 31\*

Freight Car Orders in 1929, 85\*

Freight Car Prices in 1929, 76\*

Freight Car Situation, The, 1048†

Freight Car Surplus, 152, 331, 376, 436, 555, 592, 680, 822, 928, 1048†, 1067, 1128, 1182, 1363, 1414, 1472

Freight Cars, Record in Furnishing, 230†

Freight Claim Division (See American Railway Association)

Freight Claims (See Claims)

Freight Claims (See Claims)

Freight Classification, Uniform, for Trucks, 1505†, 1521

Freight Commodity Statistics, 1088

Freight Commodity Statistics, 1088 Freight Container Bureau: Report, Freight Containers (See Containers)

Freight Handling by Truck; N. Y. C., 286\*
Freight Handling; G. T. W. Circular, 987
Freight Handling; G. T. W. Circular, 987
Freight Handling; G. T. W. Circular, 987
Freight Handling; Service. Report of Committee on, Transportation Div., A. R. A., 1188
Freight Handling, Study of, 186†
Freight Rates (See Rates, Freight)
Freight Service:

Benefits of Improved, 135†, 153°, 185†, 195°, 245°, 369†.
Competition, Is There Too Much, 1355†
Improvements in 1929, 38°
Operating Trucks in, 739, 1034‡, 1292‡
Sacramento Northern; Through Service, 1207
Freight Speed Records, New, 542†
Freight Station Facilities, Design oi, 628-D137
Freight Station Facilities, Design oi, 628-D137
Freight Traffic:
Declining Growth of, 1305†
Perishable, Growth of, 1490
River Versus Rail Service, 811†
Statistics: November, 215, December and Year 1929, 493, January, 701, February, 939, March, 1259, April, 1491
Year 1929, 24\*
Freight Train Loading, 1924-1929, 33°
Freight Trains, Radio Telephones for, 628-D205
Freight Trucking Case, St. Louis, 492, 535
French, Edward S., President of B. & M., 927°
Friction Draft Gear (See Draft Gear)
Frisco (See St. Louis-San Francisco)
Fritch, Secretary, A. R. E. A., 628-D16
Fritch, Secretary, Honored, 628-D16
Fritch, Secretary, Report of, 628-D62°
Fritch, Secretary, Report of, 628-D62°
Fritch, Secretary, Report of, 628-D16
Fritz, John, Medal to Dr. Modjeski, 260
From Cotter Pins to Ton-Miles-per-Train-Hour, 628-D2†
Front Ends, Grates and Ashpans, 1180
Fruit Rate Case, California, 1377, 1610
Fruit and Vegetables, Damages to; A. R. A
Discussion, 1220†, 1224
Freight Conservation; Development on the Erie, 1178
Consumption, Mech. Div. Report on, 1548-Conservation; Development on the Erie, 1178 Consumption, Mech. Div. Report on, 1548-D173 Consumption, 1924-1929, 34 Costs, Should the Railways Expect Decreased, 1177 1177
Economies; J. S. Pyeatt on. 1131
Efficiency Still Gains, 1456†
Locomotive, Tests; C. & E. I., 599\*
Method of Purchasing, 300
Performance, Mech. Div., Report on, 1548D178
Powdered: H. N. Rodenauch on, 1178

Performance, Mech. Div., Report on, 1548-D178
Powdened; H. N. Rodenaugh on, 1178
Purchases to Production, Ratio of, 1416
Rail Motor Car Tests, 1548-D123\*
Savings in 1929, 631†
Specifications; Adrian Hughes, Jr., on, 298
Tax Increase Offsets Savings in, 1132
Fuel Feed System, Stewart-Warner Electric, 738\*
Fuel Men Hold Annual Meeting, 1131\*, 1177\*, 1204 (Exhibitors)
Fuel Performance Best Index of Operating Efficiency, 1131\*
Full-Crew Complaint of B. of L. F. & E. Dismissed, 838, 1606
Full-Wave Charger, Fansteel, 628-D170\*
Fuller Medium-Duty Transmission, 1537\*
Further Safety Studies Needed, 3924
Fusees and Torpedoes; Lecture on, 781
Fusion Welding (See Welding)
Future of Crosstie Buying, The, 1063\*

Gage Conversion in India, 266
Gages, Crosby Locomotive, 1548-D76\*
Galveston Rate Case, 574, 1153, 1606
Garage; B. & M., at Cambridge, 507\*
Garage; Designing for Convenience and Efficiency, Galveston Rate Case, 574, 1133, 1000
Garage; B. & M., at Cambridge, 507\*
Garage; Designing for Convenience and Efficiency, 1021
Garage: Greyhound at Detroit, 1023
Garage Facilities; Northland at Minneapolis, 724\*
Gas-Electric Cars; M. & St. L., 475\*
Gas-Electric Cars, Steam Generating Unit for, 1548-D54\*
Gas-Electric Locomotive, Electro-Motive, 1548-D73\*
Gas-Electric Locomotive, Mack, 1548-D7.\*
Gas-Electric Locomotive, Plymouth, 25-3-D73
Gasoline, Storage and Purchase of, 3092
Gasoline, Storage and Purchase of, 3092
Gasoline, Testing of, 1024\*
Gate Shear, Pels, 1454-D53\*
Gear, Center-Hung Baker Valve, 1548-D80\*
Gear, Center-Hung Baker Valve, 1548-D80\*
Gear, Power Throttle, 1548-D76\*
General American Tank Cars, 1454-D16, 1454-D111
General Chemical Company Tank Car, 1454-D16
General Committee (See American Railway Association—Mechanical Division; also Purchases and Stores)
General Electric Co.: Annual Report, 787
General Electric Co.: Employment Stabilization, 1487
General Motors Corp.: Taxicab Concession; In-General Motors Corp.: Taxicab Concession; Injunction Issued, 1392
General Motors Truck Co.: Increased Power in Type W Yellow Coach, 1031\*

General Railway Signal Company:
Annual Report, 397
Car Retarders; N. Y. C., 439\*
Centralized Control, 332\* (D. & R. G. W.), 640\* (M.P.), 812\* (C. B. & Q.)
Color-Light Signal, Three-Watt Type-SA, 628-D110\*
Interlocking Equipment: Cleveland Union Ter-D110\*

Interlocking Equipment; Cleveland Union Terminal, 1570\*
Relay, Type-K Interlocking, 628-D49°
Track Diagram, Type-D Illuminated, 628-D169\*
General Steel Castings Corp.:
Engine Bed Castings for U. P., 654\*, 1548-D70\*
Plant at Eddystone, 176, 176, 2000. Engine Bed Castings for U. P., 654\*, 1548-D70\*
Plant at Eddystone, 176, 1548-D103\*
Generator Drives, Positive Mechanical Axle, 1548-D145
Geo Track, Three Roads Experiment with, 137\*
Geographical Scope of A. R. E. A., 628-D54
Geologist's Place in Railway Development, The, 1599
Georgia Motor Coach Regulation Law Sustained, 1039
Georgia Motor Transport Co., 1542
Georgia, Tax Injunction Granted in, 316
German Purchasing Agent, The, 1208
German Railways:
Developments, 493
Operations in 1929, 119\*
Purchasing and Stores Methods, 253\*
Reparation Payments, 452
Signals, Automatic Block, Without Track
Circuits, 1144
Germany: Circuits, 1247
Germany:
Rail vs. Road, 1306†
Signals, Pre-caution Roadside, 1208\*
Gideon & North Island: Operation by St. Louis
Southwestern, 173
Globe Valve for Superheated Steam, 1548-D91\*
Gold Car Heating and Lighting Co.:
Coupler Head, Steam-Hose, 1454-D12\*
Valve, Regulating, for Vapor Circuits, 1454-D32\*
Water Heater for Passenger Cars, 1548-D51\*

Valve, Regulating, for Vapor Circuits, 1454-D32\*

Water Heater for Passenger Cars, 1548-D51\*
Golden Glow FFA-1412 Headlight, 1548-D77\*
Golden Spike Driven on P. R. R., 658, 703\*
Golf Club Opened by P. R. R. Employees, 1392
Gondola Car, Drop-End Door Lock for, 1454-D165\*
Gondola Car, Drop-End Door Lock for, 1454-D165\*
Gondola Car, For Shipping Bridge Cables, 1454-D16
Gondola Car, Reading, 1454-D14\*
Gondola Car, Reading, 1454-D14\*
Gondolas, 65-Ft.; B. & L. E., 1323\*
Goodwin Leaf Friction Draft Gear, 1454-D98\*
Goodwear Tire & Rubber Co.; Balloon Tires, New, 528\*
Gormley, M. J., Address at A. R. E. A. Convention, 628-D57
Gormley, M. J., Address at Signal Section Convention, 628-D97
Gormley, M. J., on Car Situation, 1245
Government Loans, Settlement of, 1446
Government Cownership and the Howell Bill, 1072
Government Regulation, Do We Want More? 9517

Government Regulation, Do We Want more: 9317
Government the Railways and Business, The, 12197
Governors for Controlling the Speed of Equipment, 521\*
Grade Separation—Is It the Solution for Crossing Accidents? 1457†; 1473\*
Grade Separations, Highway, Use of Center Columns for, 628-D78
Grade Separation Illinois, 846
Grade Separation Structures, Thin Floors for, 853†
Grain Bin Exhibit Train; M. P., 1396
Grain Movement, Westward, Increases, 149
Grain Rates, Lower, to Maritimes Sought, 1143
Grand Central Terminal: Power and Heating Plants, 632\*
Grandview-Leeds Line In Missouri, 907\*
Graphic Charts for Operating Problems, 913\*
Graphol Products Co.: Rust Solvent Lubricant, 1454-D43
Grates, Hulson Tuyere-Type, 599\*
Grease Gun, Spee-D Universal, 1548-D89\*
Great Britain:

Bridge Stress Committee, Report of, 628D115†, 628-D147
Car Ownership and Standardization Discussions, 1397
Clock, Unique, 1156
Passengers, Number Carried, 558
Rail-Motor Coach Co-ordination, 714†, 720\*
Rail-Motor Truck Co-ordination, 1523\*
Railway Developments Since 1922, 1329\*
Railway Developments Since 1922, 1329\*
Railway Prospects for 1930, 119\*
Road-Rail War Ends, 714†
Selling Railway Transportation, 695
Timetables, 486
Great Northern:
Claim Work, Co-ordinating, 1519\*
Electrification Progress, 42\*
Fire on Bridge at Marcus, 879
Fireless Engine Terminal, 203\*
Great Northern Terminal Ry., Permission to Dissolve Asked, 982
Greyhound Lines, Interest in, 1019\*
"Heater Cars," 1548-D156
Interchange with C. P. R. at Winnipeg, 703
Klamath Falls Line Approved, 1595\*, 1606
Locomotive Runs, Long, Used Effectively, 643\*

Locomotives, Electric Pusher, 1324\* Locomotives, 4-8-4 Type, 965\*, 1143 Passenger-Train Service, Joint Approved, 358 Purchase of Part of C. B. & Q. Considered, 936 Timber Treating Plant, 190\* Train Time Shortened, 842, 1089, 1396 Unification Plan, 556, 834, 931, 972, 1082, 1483, 1601 Chineation Fian, 556, 834, 931, 972, 1082, 1483, 1601

Great Lakes Shippers' Advisory Board: Meeting of, 173, 842

Great Lakes Transit Corp.: Lake-Rail Freight Routes and Rates, 988

Great Progress in Canada in 1929, 46\*

Great Western of Great Britain:

Cars Redecorated, 150

Highway Operations, 720\*, 1525\*

Improvements Under Way, 250, 493

Motor Transport Operations, 539

South Wales Docks to be Extended, 1154

Greenville Steel Car Company: Gondolas for B.

& L. E., 1323\*

Greer Switch Heating Device, 628-D110\*

Greyhound Corporation:

Financing, 745

Notes, 532

Ownership of, 1019\*

Rail-Motor Coach Service. 574, 714†, 741\*, 781, 939 (Discontinued), 1040

Greyhound Lines: Rail-Motor Coach Service, 574, 714†, 741\*, 781, 939 (Discontinued), 1040
Greyhound Lines:
Accidents, Steps to Avoid, 1540‡
Cleveland Offices, 1606
Garage at Detroit, 1023
Indiana Permit Denied, 538
Obtaining Competent Mechanics, 531‡
Ohio Lines Acquired, 315
Ownership of, 1019²
Rail-Motor Coach Service, 574, 714†, 741\*, 781, 939 (Discontinued), 1040
Selling More Rides, 725\*
Service from Units and Parts, 283\*
Traffic Figures, New York—Chicago, 533
Greyhound Management Company: Large or Small Coaches, 1036‡
Grinder, Hercules Pencil, 1454-D51\*
Grinder, Locomotive Rod, 1548-D80\*
Grinder, Stanley Bench, 1454-D104\*
Grinding Corrosion, Wet, Prevention of, 1454-D50
Group Insurance (See Insurance) Insurance (See Insurance)
th of Perishable Freight Traffic, 1490
th of Railway Freight Traffic, Declining,
1305† Guard, Aprons to Protect Crossings, 628-D170\*
Guard, Aprons to Protect Crossings, 628-D170\*
Guard, Davis Bottom-Rod, 1454-D40\*
Guatemala: Railway Progress in 1929, 128
Gautemala: Salvador Line Opened, 216
Gulf, Mobile & Northern: Junior Safety Committee, 1370\*
Gulf, Mobile & Northern; Safety Plaque Winner, 1143, 1253
Gulf, Mobile & Northern; Sleeping Car Tax, 983

### H

Hadley, Dr. Arthur Twining, Death of, 606
Hale & Kilburn Double Rotating Chairs, 1454D166\*
Hamilton Engine Terminal; T. H. & B., 1358\*
Hammers, Stanley-Ajax Electric, 1548-D92\*
Hand Brake, Klasing, 1548-D50\*
Hard Brake, Wheel-Operated Vestibule, 1454D35\*
Hand Brake with Vertical Wheel, Ureco, 1454D99\* Hand Brake with Vertical Wheel, Ureco, 1454-D99°
Hand Brakes, Controversy on, 655‡, 866 Handling Supplies in Winter, 371†
Handy Governor Corp.; Controlling the Speed of Equipment, 521° of Equipment, 521\*

Hanlon Drifting Valve, 1548-D92\*

Hanlon Locomotive Sander, 1548-D88\*

Hannauer Memorial Tablet, 1398\*

Harbors; A. R. E. A. Report on, 628-D199

Harriman Medals Awarded, 1606

Harvard Summer Courses, 162

Headlight, Golden Glow FFA-1412, 1548-D77\*

Headlight Switches, Keystone Locomotive, 1548-D80\*

Heat-Range Spark Plugs A. C. 739\* Heater Car, Iceless Refrigerator and, 921\*, 1454-Heater Car, Iceless Refrigerator and, 921\*, 1454-D14\*
Heater, Oil-Burning Switcli, 628-D207\*
Heater, Water, for Passenger Cars, 1548-D51\*
Heating Apparatus for Electric Locomotives
Hauling Through Passenger Equipment,
1548-D135†, 1548-D155
Heating System; Cleveland Union Terminal,
1565
Heavier Business Without Larger Terminal Facilities, 1593
Heavier Car Loading, H. G. Taylor on, 1590
Helum Tank Car, 1454-D38\*
Helping Shippers Reduce Transportation Costs,
585†
Herry, R. A. C., Resigns, 615\*
Hercules Pencil Grinder, 1454-D51\*
Hercules Pencil Grinder, 1454-D51\*
Heywood Wakefield Rotating and Reclining
Seats, 560\*
High-Pressure Locomotive, Loeffler, 406

Highway Crossing (See Crossings, Highway Grade) Highway Guardian, 869\* Highway Transport Investigation; I. C. C., 1202, 1248, 1295, 1505† Highway Transport Stand on Its Own Feet, Can, 0034\* Highway Transport Stand on 1... 903† Highways, High-Speed, Who Should Pay for, 1581 1582 Gear Carrier, 1454-D42\* Highways, High-Speed, Who Should Pay for, 1581
Hinged Draft Gear Carrier, 1454-D42\*
Historical Posters; P. R. R., 1145\*
History of the American Association of Passenger Traffic Officers, 583†, 586\*
Hoch Bill for Motor Transport Regulation, 297 (Provisions of)
Hoch-Smith Case Reopened, 173
Hoch-Smith Decision Over-Ruled, 1377, 1610
Hoch-Smith Resolution Nullified, 1405†
Hocking Valley: Valuation, Final, 667
Hoists, One-Man, 628-D207\*
Holding Companies, Investigation of, 173, 212, 260, 328, 396, 611, 701, 839, 871, 928, 1171†
Holding Companies, What About the 1171‡ 260, 328, 396, 611, 701, 839, 871, 928, 1171†

Holding Companies, What About the, 1171†
Honduras: Railway Operations in 1929, 128
Hook and Roller Bar, 1454-D48\*
Hopper Car, All-Welded, B. & O., 1454-D14, 1454-D111\*, 1548-D56†
Hopper Cars; Investigate New Materials Impartially, 1548-D98†
Hopper Cars; Investigate New Materials Impartially, 1548-D98†
Hopper Cars; P. R. R. 1454-D15, 1454-D111\*
Horse-Express Cars; C. & N. W., 547\*
Hot Box, A New Definition of a, 1548-D56†
Hot Box, A New Definition of a, 1548-D56†
Hot Box, Tre Ever-Present, 585†
Houston Passenger Club Organized, 265
How Aluminum Alloys Serve Railroads; by A. H. Woollen, 378\*
How to Forecast the Volume of Traffic, 1183\*
Howell Bill and Government Ownership, 1072
Howell Bill; Comments on Sought, 1439
Howell, Senator, Proposes New Valuation Rate
Base Rule, 775, 809†, 851†, 1237 (I. C.
C. Plan), 1439
Hoy, Sir William, Death of, 662\*
Hudson Bay, Another Railway to, Proposed, 1144
Hudson Bay Railway: Mixed Train Operation, 1088
Hudson Bay Railway: Operation to Begin in 1931, 1452 Hudson Bay Railway: Mixed Train Operation, 1088
Hudson Bay Railway: Operation to Begin in 1931, 1452
Hudson Bay Railway: Station Names, 837
Hulson Tuvere-Type Grates; C. & E. 1., 599\*
Human Relations, Problem of, 1548-D994
Humps in Terminal Yards, Design of, 628-D137
Hungary: Railway Operations in 1929, 124
Hunt, Robert W. Company: Intermediate Manganese Steel Rails, Investigation of, 595\*
Hunt-Spiller Crosshead Shoes, 1548-D132\*
Hunt-Spiller Steam-Pipe Connections, 1548-D94\*
Hydraulic Jack, Vickers, 1033\*
Hydraulic Web Punch, Messinger, 1548-D53\* Ι

I
Iceless Refrigerator and Heater Car; Silica Gel,
921\*. 1454-D14\*
Icing Dining Cars, 1454-D36\*
Ideas, New, Bureau of; P. R. R., 1202
Identification Change Needed at A. R. E. A.
Convention, 628-D51†
Illinois Central:
Cab Transfer, Free, 1543
Dairy and Poultry Train, 215
Electrification Progress, 42\*
Engineer Awarded Medal, 161
Engineering Department Titles Changed,
628-D56
Fare to Memphis Reduced, 1447
Geo Track, Experiment with, 137\*
Industrial Development Extended, 162
Lincoln's Connection with, 935
Locomotives, Electric, Switching and Transfer, 1060\*
Medal of Honor to J. P. Cendennin, 487
Mike Mulconnery's Family, 1084
Motor Coach Line Sought in Illinois, 314
Operating Results, 251\*, 355
Purchases; P. C. Mayer on, 1364\*
Rail-Water Rates, Joint; Luckenbach Line,
1208
River Crossings, 981 River Crossings, 981

"Sinissippi, The," 988
Sleeping Car Service, Through, 1207
Standardization Work Co-ordinated, 260
Station at New Orleans, 1607
Stock Ownership Scattered, 160
Train Time Shortened, 173 Train Time Shortened, 173

Illinois: Grade Separation in, 846
Illinois River, Deepening of Proposed, 888
Illiuminated Tail Signs, 646\*
Illiuminated Track Diagram, 628-D169\*
Impact Effect of Dead Load on, 628-D147
Impact Effects; More Tests Needed, 628-D115
Impact Recorders; Tests at Chicago, 1470
Impact Recorders, Use of 396, 405
Improvement Program; C. P. R., 492
Improvement Program; C. P. R., 492
Improvement Program; Rivers and Harbors, 213
Improvement Programs for 1930, 19\*
Improvement Programs: Work Should be Started
Early, 230†, 462†
Improvement at Montreal Planned; C. N. R., 681\*
Improvements, Service, in 1929, 35\*

Improvements (See also Construction, New)
Inaccessible Railway Junctions, 160, 657
Increasing the Prosperity of the Railroad's Patrons, 672†
Independent Pneumatic Tool Co.:
Thor No. 253Y Rotary Pneumatic Drill, 1454-D104\*
Thor No. 275 Rotary Pneumatic Drill, 1454-D50\*
Thor Rod Crimder, 1548 D007 Thor No. 237 Rotary Pneumatic Drill, 1454-D150\*
Thor No. 275 Rotary Pneumatic Drill, 1454-D50\*
Thor Rod Grinder, 1548-D80\*
Indexes to Vol. 87, 463†
India:
Gage Conversiont; South Indian Railway, 266
Railway Progress in Recent Years, 129
Railway Results, 216
India-Rubber Dufaft Gears, 1454-D166\*
India-Rubber Draft Gears, 1454-D166\*
Indiana: Committee Appointed to Study Railroad Problems, 396
Indiana Committee Appointed to Study Railroad Problems, 396
Indianapolis Frog & Switch Co.; Guard Aprons to Protect Crossings, 628-D170\*
Indication Relay, Union, 628-D111\*
Industrial Property, Conserving, 1599
Industrial Revolution, The New; G. W. Dyer, on, 628-D158
Industrial Revolution, The New; G. W. Dyer, on, 628-D158
Industrial Revolution, The New; G. W. Dyer, on, 628-D158
Industrial Revolution, The New; G. W. Dyer, on, 628-D158
Industrial Revolution, The New; G. W. Dyer, on, 628-D158
Industrial Revolution, The New; G. W. Dyer, on, 628-D158
Industrial Revolution, The New; G. W. Dyer, on, 628-D158
Industrial Revolution, The New; G. W. Dyer, on, 628-D158
Injury Cases, Imported Personal; Minnesota Supreme Court on, 936
Inland Freight Station; N. Y. Union, 1253, 1342
Inland Waterways Corp.:

American Warehousemen's Association Files Complaint, 1452
Annual Report, 864, 903†
Barge-Rail Rates, 174, 341, 358, 1344
Extension of Services, Bill Proposed for, 879
Reliability, 903†
Saving That Has Not Yet Arrived, A, 422†
Inland Waterways (See Waterways)
Inspection Pit for Freight Cars, 1454-D105†, 1454-D118\*
Insurance, Group; Northwestern Pacific, 1202;
Wabash, 1392; D. & H. 1418
Insurance, Liability; Nebraska Motor Coach Operators, 313
Insurance Systems; M. P., 923
Interchange at Winnipeg; G. N.-C. P. R., 703, N. P.-C. P. R., 841
Interchange Car Inspection, Report on, 1592
Interchange Car Inspection, Report on, 1592
Interchange Car Inspection, Interlocking Facilities; Cleveland Union Termin al, 1570\* Interlocking Facilities,
al, 1570\*
Interlocking, New; Cincinnati to Covington; C.
& O., 468\*
Interlocking Plants Completed During 1929, 113
Interlocking Plants, Conformity of; California,
260 260
Interlocking Plants, Maintaining and Testing, 628-D102 D102
Interlocking Relay, Type-K, 628-D49\*
Interlocking; Signal Section's Report, 628-D99\*
Interlocking, Union Electro-Pneumatic, 628-D16
Interlocking with no Mechanical Locking; C.
I. & P., 373\* Interlockings, Automatic, Economic Value of, Interlockings, Automatic, Economic Value of, 853†
Intermediate Manganese Steel Rails, 595\*
International-Great Northern: Service Order, Mexican Traffic, 215
International Model A-5 Truck, 736\*
International Railway Congress:
Delegates, American, 938
Meeting of, 1367
Motor Transport Discussion, 1517
Rail vs. Road in Germany, 1306†
International Railway Fuel Association: Annual Meeting, 1131\*, 1177\*, 1204 (Exhibitors)
International Railways of Central America:
Gautemala-Salvador Line Opened, 216
Progress in 1929, 128
Interstate Business Not Taxable in N. J., 536
Interstate Commerce Act: Section on Bills of Lading to be Amended, 874, 988
Interstate Commerce Commission:
Accident Investigations, 208, 445, 658, 977, 1337
Appeal to Congress on Valuation, 321†, 334 Appeal to Congress on Valuation, 321†, 334 Appropriations for, 390, 442, 472, 548, 936, 982 Appropriations for, 390, 442, 472, 548, 936, 982
Barge-Rail Rates, 174, 341, 358, 1344
Beardslee Launch & Barge Service, Inc., 1607
Bill of Lading and Livestock Contract
Amended, 1396
Brimstone R. R. & Canal Recapture Report, 607, 846
Bureau of Locomotive Inspection; Salary Increases, 487, 982
Bureau of Safety, 584†, 1454-D115\*, 1543
Campbell, Commissioner, Resigned, 131
Cavitalization and Income for 1929, 1085
Car-Hire Rules, 375, 982, 1143, 1487
Clayton Act Hearing; P. R. R.-Wabash, 1240, 1332
Coal Operators File Complaint, 1207 1332 Coal Operators File Complaint, 1207 Coal Rate Hearing, Illinois, 574, 1396 Coal Rate to Youngstown Disapproved, 842 Commodity Values and Freight Rates, 690, 786 Consolidation (See Consolidations)
D. & R. G. W. Hearing, 784, 839

### GENERAL INDEX—Continued

[Illustrated articles are indicated thus\*; Editorials thus+; Letters to Editor thus+]

Depreciation Accounting, 134†, 227†
Docket Reduced in 1929, 174
Eastern Unification Plans, Withdrawal of, 404, 467, 566, 578, 879, 894, 993, 1108, 1159 Enjoinment of Construction by P. & N. Sought, 987
Extra Fare Inquiry, 781, 888, 1381
Fourth Section Relief Sought by S. P., 1259, 1384, 1490
Freight Commodity Statistics, 1088
Galveston Rate Case, 574, 1153, 1606
Great Northern Pacific Unification, 556, 834, 931, 972, 1483, 1601
Hoch-Smith Case Reopened, 173
Hoch-Smith Decision Over-Ruled, 1377, 1405†, 1610
Iron and Steel Rates, 451 1610
Tron and Steel Rates, 451
Klamath Falls line Approved; G. N.-W. P., 1595\*, 1606
Lake Cargo Rate Case Re-opened, 702, 888, 1259, 1490
Lee, W. E., Appointed, 212, 264\*
Legislation, Proposed, 874
Lewiston-Holmstead Line, Construction of Denied, 264 Lewiston-Holmstead Line, Construction of Denied, 264
Long Island to Abandon Whitestone Branch, 1043, 1085
Motor Coach Transfers; B. & O. and P. R. R. 352, 405, 493, 533, 780, 1089, 1139
Motor Transport Investigation, 1202, 1248, 1295, 1505†
New York Lighterage Case, 215, 492, 702
Office Building New, to be Constructed, 982
O.-W. R. R. & N. Protests Oregon Construction, 1392, 1487, 1611
Passenger-Train Service Joint, Approved, 358
Pennsylvania Line, Hearings on, 346, 602°
(Brief of N. Y. P. & C.), 875
P. & W. V. Control of W. L. & E., Hearings on, 1603
Private Car Order, 161, 487, 936, 1372, 1439
Recapture Plan, 1237
Road-Building Materials Rate Case, 760, 843, 918
Pules of Practice, Addition to, 780 Road-Building Materials Rate Case, 760, 843, 918
Rules of Practice, Addition to, 780
Safety Appliance Order Modified, 450
St. Louis Trucking Case, 492, 535
Salary Increases; Bureau of Locomotive Inspection, 487, 982
Tate, Hugh M., Appointed, 441, 573°
Traffic to Mexico, Service Order, 215
Vacancies on, 162
Valuation (See Valuation)
Versus Supreme Court, 321†
Wabash Asks Control of W. & L. E., 1139
Wage Statistics, 212, 450, 611, 658, 852†, 879, 1252, 1392 879, 1252, 1392
Interstate Commerce Commission Rulings:
B, & O. Control of B. R. & P., Authorized, 443, 619
Barge-Rail Rates, 174, 341, 358, 1344
Great Northern Pacific Unification, 556
Iron and Steel Rates, 215
Tariff on Barge-Rail Shipments in Southern States Suspended, 574
Tariffs on Joint Freight Rates in West Suspended, 616
Valuation and Earnings, Railroads Ordered to Report, 611
Warehouses, Contract; Allowances to Prohibited, 215, 415
Interstate Transit Lines:

Interstate Transit Lines:
Express Traffic, 1293†
Towa Permit Granted, 517, 535
Notes, 534, 1039, 1041, 1298
Operation by U. P. Opposed, 174, 264, 276†, 401, 535
Service Expanded, 1544

Interviewing Prospective Employees, 1335 Inventories: Reduction Through Improved Service, 135†, 153\*, 185†, 195°, 245°, 369† (George R. Meyercord on)
Inventories Under Control, Railways Keep, 1423\*
Investigation of Holding Companies, 173, 212, 260, 328, 396, 611, 701, 839, 871, 928, 1171†

Investigation of "Reciprocal Buying": Senator Brookhart's Proposal, 419†, 438, 571

Investigation of "Reciprocal Buying": Swift & Company, 131, 140, 205, 419†, 438, 479, 541†, 564, 598, 693, 771, 7784, 929, 951

Investigation of "Reciprocal Buying": Waugh Equipment Company, 926, 1252, 1373, 1431, 1478

Investment in Passarch Business

ent in Research Pays, 14067, 1429 Iowa Railroad Commission: Competition or Monopoly? 517 Iron and Steel Structures; A. R. E. A. Report, 628-D115†, 628-D147° Is Further Stock Sale to Employees Timely? 322† Is Railway Motor Coach Operation Illegal?

276† Italian Colonial Railways to be Developed, 971

Italian State Railways:
Apennine Tunnel Dedicated, 662\*
Station at Milan, 1397
Year 1928, 121
It Has to be Done Right, 321†

Jack, Blackhawk Tool Box, 1536\*
Jack, Buda No. 615 Ratchet, 1454-D54\*
Jack, Smith Coupling, 1454-D48\*
Jack, Vickers Hydraulic, 1033\*
Jack, Vickers Tool Box, 1537\*
Japanese Government Railways: Lower Rates, 662
Japanese Government Railways: Rail-Highway Coordinating Plans, 1300
Jersey Central Transportation Co.:
Central Union Bus Terminal, 515\*
Highway Services, Expanded, 1037\*
Notes, 318, 538
Trans-Continental Motor Coach Connections, 1490 Jersey City; D. L. & W. Warehouse, 701, 816\* Job of the Motor Transport Division, The, 501†, 713† 713†
John Fritz Medal to Dr. Modjeski, 260
Johns-Manville Corp.: Floridene Stone, 628-D49\*
Johnson, A. B.: Development in 1930, 17\*
Joint Operation of Terminals, Report on, 1593
Joint Ring for Use in Jacking Pipe, 628-D109\*
Joints, Flexible Ball, for Pipe Connections, 1548JOHNS Benefic Management of Property of States of S D75\*
Journal Bearings, Messinger Car, 1454-D35\*
Journal-Box Lid, Davis, 1454-D100\*
Journal-Box Lid with an Inner Seal, 1454-D100\*
Journal-Box Packing, Specifications for, 1454-D68
Journal Boxes, Report on, 1548-D25
Journal Packing, Reclamation of; A. C. L., 425°
Journal Wedges and Gages, Report on, 1548-D25
Junior Safety Workers' League, 395

Kalamazoo Railway Supply Co.: Flanged Wheels
for Ford Cars, 1198\*
Kansas City, Mexico & Orient: Extension Opened,
1607
Kansas City Southern:
Line, New, Completes Ownership to Gulf
Ports, 907\*
Rail, What Is the Economic Weight of, 1220†,
1231\*
Ties, Life of, 1127
Keeping Adequate Supplies on Hand, 529
Keeping Motor Coaches Clean, 311‡, 529‡, 530‡
Kentucky: Legislation, 879 Reeping Motor Coaches Clean, 311\*, 529\*, 530\* Kentucky; Legislation, 879 Kettle Creek Bridge; M. C., 1412\* Kettle Valley: River Crossings and Tunnels, 1486\* Keyokæ Railway Equipment Co.: Peerless Hylastic-Steel Friction Draft Gear, 1454-D41\* Keyscat Miller, Niles, 1548-D76\* Keystone Locomotive Headlight Switches, 1548-D80\* D80\*
Keystone Metal Tic, 628-D109\*
Kinnear Manufacturing Co.; Power Door with Emergency Hand Chain, 628-D167\*
Klamath Falls Line Approved; G. N.-W. P., 1595\*, 1606
Klasing Brake Demonstration Car, 1454-D112
Klasing Hand Brake, 1548-D50\*
Koppel Converts Dodge Chassis to Railway Use, 1436\*
Koppers Research Corp.: Locomax Front-End Paint, 1548-D160\*

Labor (See also Employee) Labor: Economics; A. R. E. A. Report, 628-D193\* Maintenance of Way in 1929, 44\* Prices, Report on, 1454-D130\* Savings in 1929, 2† Labor Clearing House; S. P., 838 Labor Injunction Sustained on T. & P., 1341 Labor Leaders and Railroad Employment, 1455† Labor-Saving Devices, Maintaining, 628-D196 La Crosse & Southeastern Transportation Co., 533 Lake Cargo Rate Controversy Re-Opened, 702, 888, 1259, 1490 Lake-Rail Freight Routes and Rates, 988 Lamont, Secretary, Congratulations from, 1548-D164 Lamont, Secretary, Expression of Confidence to, 1548-D137 Landis Forming and Threading Machine, 1454-Landis Forming and Threading Machine, 1454-D49\* D49\*
Landmarks for the Engineman, 1208\*
Lantern, Signalman's Carbide, 1389°
Large or Small Motor Coaches, 739, 1035‡
Largest Inn-Keeper; Pullman Company, 394
Largest Railway Crane, World's, 910\*
Lateral Motion Device for Trucks, 1454-D99°
Lateral Motion Device for Trucks, 1454-D99°
Lateral Motion Bend Small Shop, 737°
Laundry, "Dope"; A. C. L., 425°
Laundry, "Dope"; A. C. L., 425°
Laundry Operations, Div. VI, Report on, 1548-D42\*
Law, A Broad-Minded Administration of, 1548-D162†, 1548-D167\*
Law Department; Relationship to Accounting Department, 1114

 I. C. L. Freight: Store-Door Collection and Delivery, 1503†
 L. C. L. Freight; Why Not Store Door Delivery, 1285 L. C. L. Freight House; D. L. & W. at Jersey City, 816\*
L. C. L. Shippers Want, What 1269†
Lease Instructions; C. & E. I., 1191
Leavitt Reseating Tools for Exhaust-Steam Injector, 1548-D134\*
Le Blond-Schacht Co.; Series 25 Motor Truck, 304\* Lee, Elisha, on Co-ordination, 1221† Lee, E. H., Honored, 628-D175 Lee, Judge William E., Appointed to I. C. C., 212, 264\* Lee, Judge William E., Appointed to I. C. C., 212, 264\*

Legislation Affects Motor Transport Progress, 512
Legislation: Canada, 1204
Legislation in Kentucky and Mississippi, 879
Legislation: New York State, 1085, 1143
Legislation, Proposed, 874
Legislation (See also Regulation)
Lehigh & Hudson River: Discontinuance of Agency, 174
Lehigh Valley:
Clayton Act Hearing; P. R. R. Stock Purchase, 1240, 1332
Property Purchased in New York, 658
66-Ft. Rails Prove Successful, 11717, 1173\*
Stock Book Methods, 1854-D144\*
Train Time Shortened, 1988
Lentz Poppet Valves, 688
Lessons from Europe, 1548-D137†
Leves and Dykes for Flood Protection, 628-D18
Lewis, Chairman H. W., Address of, 628-D8\*
Lewis, Chairman H. W.; Hobby, 628-D5
Lewiston-Holmstead Line, Construction of Denied, 264
Liability on Trucking Company Sureties, 1547
Library, Transportation; University of Michigan, 429
Licensing and Registering of Engineers, Architects and Surveyors, 628-D76 Library, Transportation; University of Michigan, 429
Licensing and Registering of Engineers, Architects and Surveyors, 628-D76
Life Insurance (See Insurance)
Life Members, Division V, 1454-D60
Light Signal, Three-Watt Type SA Color, 628-D10\*
Lighterage Case; N. Y. City, 215, 492, 702
Lighting, Mech. Div., Report on, 1548-D144\*
Lighterage Case; N. Y. City, 215, 492, 702
Lighting, Mech. Div., Report on, 1548-D144\*
Lighting System; Cleveland Union Terminal, 1565
Lima Locomotive Works, Inc.: Annual Report, 576
Lincoln Funeral Train, 610\*, 878
Lincoln's Connection with I. C., 935
Liquid Air, Crank Pins Shrunk by; S. P. & S., 982
Little Rollo and His Pop, 628-D36\*, 628-D89\*, 628-D161\*, 628-D208\*
Lo-Ac: Prevention of Wet Grinding Corrosion, 1454-D50
Loading and Handling Cars, Report on, 1454-Loading and Handling Cars, Report on, 1454-D162\* D162\*
Loading Rules, Report on, 1454-D131\*
Loading, Unit (See Unit Loading)
Loads, Increasing, Burden of, 44
"Lobbying" Contributions; Investigation Asked,
162

Loboying Contributions; Investigation Asked, 162
Locating and Operating Coach Terminals, 309
Locating of Industries, Report on, 1589
Location, Railway, Report on Economics of, 628D171†, 628-D200\*
Lock, Drop-End Door, for Gondola Cars, 1454D165\*
Lock, MacLean-Fogg Nut, 1454-D34\*
Lock, Switch; New Design of, 351\*
Lock Washer, Spring, 628-D44\*
Locoblow, Coppus, 1548-D87\*
Locomotive Beacon; P. R. 487
Locomotive Beacon; P. R. 487
Locomotive Boiler Economizer Co.: Martin Circulator, Tests of, 255\*
Locomotive Boiler Tubes, Corrosion of, 628-D68 Locomotive Boiler Tubes, Corrosion of, 628-D68 Locomotive Booster, Tractive Force of, 1548-D152 Locomotive Builders; Relations to the Railroads,

829
Locomotive Cab Window-Sash, Edwards, 1548-D95
Locomotive Cinder Pits; A. R. E. A. Report,
628-D144
Locomotive Coaling Plant; Erie, 865\*
Locomotive Engineers' Convention, 1487
Locomotive Fuel Tests; C. & E. I., 599\*
Locomotive Gages, Crosby, 1548-D76\*
D132
Locomotive Forgings, Byers Wrought-Iron, 1548-D132
Locomotive Forgings, Nitrided, 1548-D53
Locomotive Headlight Switches, Keystone, 1548-Locomotive Headlight Switches, Keystone, 1548-D80\*

D80\*
Locomotive Lighting, Report on, 1548-D144\*
Locomotive Loadings, Girderless Flat Slabs for, 628-D182
Locomotive Mechanical Lubricator, Detroit Model B, 1548-D83\*
Locomotive Models, Felton Collection of, 935\*
Locomotive Movement, 1924-1929, 32
Locomotive Performance:
Austrian Western 2-8-4 Type, 685\*
Chicago, Milwaukee, St. Paul & Pacific, 1419\*

Report of Mech. Div., 1548-D161†, 1548-D174\* Test Run; C. & E. I., 599\* Locomotive Repair Shop at Montreal; C. N., 549\* Locomotive Rod Grinder, Thor, 1548-D80\* Locomotive Runs, Extended; C. M. St. P. & P., Locomotive Runs, Long, Advantages of, 1593 Locomotive Runs, Long, Used Effectively; G. N., notive Safety Cylinder Cock, Ardco, 1548-D133\* D133\*
Locomotive Sander, Hanlon, 1548-D88\*
Locomotive Shipments, 937
Locomotive Terminials, Mech. Div. Report on, 1548-D163†, 1548-D170\*
Locomotive That Went for a Motor Ride, 779\*
Locomotive Throttle Valve, Wagner, 1548-D90\*
Locomotive Track Exhibit, 1548-D68\*, 1548-D71\*
Locomotive Utilization, Report on, 1548-D161†, 1548-D174\* 1548-D174\* notive Water Conditioner; C. M. St. P. & P., 567\* ocomotive Whistles to be Tested on M-K-T., 879 comotives omotives:
Austrian Western 2-8-4 Type, 685\*
Automatic Oiling System, 1548-D128\*
B. & A. 4-8-2 Type, 635\*
Boiler Brace, Alco Weldless, 1548-D86\*
Boiler Plate, Lukens Steel, 1454-D16, 1548-D70 Boiler Plate, Lukens Steel, 1454-D16, 1548-D70
Canadian Pacific High Pressure, 172
Characteristics of Some Heavy Americian Types, 628-D149
C. & E. I. Junks Old Power Fast, 1222\*
C. & N. W. 4-8-4 Type, 144\*
C. M. St. P. & P. 4-6-4 Type, 559\*
Crank Pins Shrunk by Liquid Air; S. P. & S., 982
Crosshead, Union Type T, 1548-D82\*
D. & H. 4-6-2 Type Equipped with Poppet Valves, 767\*, 1548-D69
Design and Construction; Recommendations of A. R. A. Committee, 131
Design, Mech. Div. Report on, 1548-D147\*
Design, Possibilities in Refinements of, 673†
Developments on C. M. St. P. & P. 1419\*
Developments Since 1905, 830
Diesel and Steam, Comparative Tests, 1135\*
Diesel; I. R. F. A. Report, 1134\*
Economics of Railway Location, 628-D1717, 628-D200\*
Economy Devices, Report on, f136
Electric: Economy Devices, Report on, 1136 Electric lectric:
Cleveland Union Terminal, 1568\*
Heating Apparatus for Passenger Trains, 1548-D135†, 1548-D155
Paris, Lyons, Mediterranean, 427\*
Piedmont & Northern, 911\*
Pushers Operated on G. N., 1324\*
Rating, Standard Method of, 1548-D135†, 1548-D154 Regenerative Braking, 1548-D135†, 1548-D154 Report of Mech. Div., 1548-D135†, 1548 D154\* D154\*
Switching and Transfer Service: I. C., 1060\*
Engine Bed Castings; U. P., 654\*, 1548-D70\*
Engine Truck, C. B. & Q., 1548-D69
Feedwater Heater; Drifting-Control Valve,
1548-D93\* Feedwater Heater; Drifting-Control Valve, 1548-D93\*
Feedwater Heater; Water Conditioning Apparatus, 567\*
Foreign Diesel; I. R. F. A. Report, 1135
Fuel Consumption, 1924-1929, 34
Gas-Electric, Electro-Motive, 1548-D73\*
Gas-Electric, Mack, 1548-D73\*
Gas-Electric, Plymouth, 1548-D73
Great Northern 4-8-4 Type, 965\*, 1143
Lessons from Europe, 1548-D137†
Loeffler, High-Pressure, 406
London & North Eastern; 4-6-4 Type, 473\*
Lubrication, Report on, 1548-D127\*
Mark AP Engine, 1548-D77\*
Martin Circulator, Tests of; T. & P., 255\*
Mountain-Climbing in Brazil, 837\*
Multiple-Crew Runs Needed, More, 1548-D161†, 1548-D174
Oil-Electric; Mech. Div. Report on, 1548-D50
Oil-Electric; Mech. Div. Report on, 1548-D50 Oil-Electric; Mech. Div. Report on, 1548-D150
Oil-Electric; N. Y. C., 1548-D71
Oil-Electric; Switcher Tested by Baldwin, 937
Oil-Electric, Westinghouse, 1427\*
Orders in 1929, 78\*
Orders in 1930, 630†
Other Than Steam, 1548-D161†
Pennsylvania Mountain Type, 1548-D68\*
Pitting, Three Methods of Preventing, 1380
Prices in 1929, 75\*
Reading 2-10-2 Type, 1548-D69\*
Remote Control for, 1154
Roller Bearings; Timken Demonstration, 1225\*
Rutland 4-6-2 Type, 437\*
Split Driving-Box Brasses, 1548-D128\*
Stoker, Lower Class 4, 1548-D84\*
Stoker, Standard BT, 1548-D86\*
Stored Serviceable, 1924-1929, Number, 30\*
Tender-Hose Coupler and Strainer, 1548-D53\*
Tender Truck, Buckeye, 1548-D81\*
Tenders, Economy Water-Level Indicator for, 1548-D93\*
Timken 4-8-4 Type for Demonstrations, 1225\*, 1548-D63 Timken 4-8-4 Type for Demonstrations, 1225\*, 1548-D68
Trends During 1929, 3†, 39\*

RAILWAY AGE-Index Valves (See Valves)
Wabash, 4-8-2 Type, 821\*
Westinghouse Exhibits, 1548-D72\*
Loeffler High-Pressure Locomotive, 406
Logan Drinking Cup Co.: Ajax Cup and Dispensing Cabinet, 483\*
Logan Drinking Cup Co.: Ajax Cup Dispenser, 1454-D39\*
London & North Eastern:
Advertising Methods, 695
Caboose, Concrete, 705\*
Highway Operations, 721, 1525
Locomotivie, 4-6-4 Type, 473\*
Motive Power Requirements for 1930, 958
Space-Interval Protection for Trackmen, 1087
London, Midland & Scottish:
Bringing a New Point of View to the Railroad, 671†
Hartley, Sir Harold, Vice-President, 704
Highway Operations, 721\*, 1525
Long.and-Short Haul Rule Amendment Proposed, 1259, 1384
Long Engine Runs Used Effectively: G. N., 643\* 1259, 1384 Long Engine Runs Used Effectively; G. N., 643\* Long Island: g Island:
Agricultural Department, 452
Automatic Train-Stop Approved, 1252
Motor Coach Substitution, 1043
Suburban Service Expansion Order, 1086, Motor Coach Substitution, 1043
Suburban Service Expansion Order, 1086, 1153, 1341
Whitestone Branch Abandoned, 1043, 1085
Looking Backward, 159, 210, 258, 353, 391, 448, 485, 569, 608, 656, 699, 777, 835, 877, 933, 979, 1083, 1141, 1200, 1250, 1338, 1390, 1437, 1485, 1604
Loring Fund; Aid to Children; B. & M., 213
Los Angeles & Salt Lake:
Motor Coach Substitution Proposed, 1545
Safety Plaque Winner, 1143, 1253
Union Passenger Station Order Upheld, 1341, 1607
Loss and Damage (See Claims) Loss and Damage (See Claims)
Louisiana & Arkansas: Galveston Rate Case, 574, 1153, 1606
Louisiana Supreme Court: Motor Truck Decision, 1040
Louisville & Nashville:
Chevrolet-Hagans Connection, 430\*
Clerks Awarded Increase, 395
Lounge Cars; S. P., 754\*
Low-Cost Farming Special; N. P., 1610
Lower Class 4 Locomotive Stoker, 1548-D84\*
Lubricant, Rust Solvent and Penetrating, 1454-D43
Lubrication Oils, Reclamation of; A. C. L., 425\*
Lubrication: Lubricating Oils, Reclamation of A. C. Lu, 722 Lubrication:
Cars, Report on, 1454-D67\*
Engines Wear Out, Why, 1273
Hot Box, A New Definition of a, 1548-D56†
Hot Box, The Ever-Present, 585†
Hot Box Problem, The, 1454-D56†, 1454-D67\*
Locomotives, Report on, 1548-D127\*
Lubricator, Bosch LHA Forced-Feed, 1548-D131\*, 1548-D160
Lubricator, Detroit Locomotive Mechanical, 1548-D83\*
Lukens Steel Boiler Plate, 1454-D16, 1548-D70 Lukens Steel Boiler Plate, 1454-D16, 1548-D70 Lumber, Buying for the Railways, 1454-D90 Lumber, Car. Standards and Prices, 1454-D86\*, 1454-D88\*
Lumber, Car, Treatment of, 384
Lumber Items, Price Variations of, 73\*
Lumber, Specifications for, 1548-D116
Lumber Standardization; A. R. E. A. Report,
628-D172†, 628-D176 Mc

McKellar, Senator: Road-Building Materials Rate Case, 760, 843, 918 McManamy, F., Address before Mechanical Div., 1548-D114\* McWilliams Mole; Ballast Cleaner, 628-D166\*

Machine Tools:
Crosshead Pin Ejector, 1548-D133\*
Landis Forming and Threading Machine, 1454-D49\*
Lathe, Niles 27-In., 1548-D79\*
Miller, Niles Keyseat, 1548-D76\*
Orders in 1929, 107\*
Purchases, 1924-1929, 108
Quartering Machine, Niles, 1548-D85\*
Riveting Machine, Electro-Mechanical, 1454-D52\*
(See also Tools) D52\*
(See also Tools)
Mack AP Engine, 1548-D77\*
Mack AP Engine, 1548-D77\*
Mack Gas-Electric Locomotive, 1548-D73\*
MacLean-Fogg Marked Nut Lock, 1454-D34\*
MacLean-Fogg Water-Tight Bolt, 1454-D34\*
Maddux Air Line: Fares Increased, 1490
Magneto, Eisemann, For High Speed Engines, 1032\*
Mail, Carriage of in Motor Vehicles, 1547
Mail Sacks Removed by Army Blimp from P. R.
R. Flyer, 1485
Maintaining Labor-Saving Devices, 628-D196
Maintenance of Equipment: Locomotives; C. M.
St. P. & P., 1419\*
- Maintenance of Motor Coach Engines, 1025\*

Maintenance of Motor Coaches:
County Transportation Co., Inc., 1514\*
Expanding Operations and Adequate Maintenance, 503†
Garage; B. & M. Transportation Co., 507\*
Garage Designing, 1021
Garage; Greyhound at Detroit, 1023
Garage; Northland Transportation Co., 724\*
Greyhound Lines, 283\*
Mechanics, Obtaining Competent, 309, 531‡, 740‡
Plan; B. & M. Transportation Co., 715\* Mechanics, Obtaining Competent, 309, 5314, 740‡
Plan; B. & M. Transportation Co., 715\*
Philadelphia Rural Transit Co., 1278\*
Maintenance of Motor Trucks: Railway Express Agency, 1530\*
Maintenance of Motor Vehicles: Costs, How Close a Check on, 1034, 1294‡, 1539‡
Maintenance of Steam Railroad Electrification Equipment, 825
Maintenance of Way:
Developments in 1929, 44
Employment, Range of, 44\*
Expenditures, 43\*
Operations of Railways That Have Reduced Labor Requirements, 628-D194
Progress in 1929, 43\*
Statistical Requirements of Departments, 628-D180\*
Maintenance of Way Employees: D180\*
Maintenance of Way Employees:
Operations That Have Reduced Number, 628-D194
Rules, Report on, 628-D74\*
Making Old Bridges Stronger, by G. A. Haggander, 628-D6, 756\*
Malleable Iron, Specifications for, 1548-D117
Malolo Boat Train, 265
Manchuria: Visitors at A. R. E. A. Convention, 628-D4
Manganese Steel Rails, Intermediate, 595\* 628-D4

Manganese Steel Rails, Intermediate, 595°
Manley Air-Operated Tire Inspection Tool, 308°
Manley Pneumatic Elevator, 1291°
Manufacturers; Benefits of Improved Railway
Service to, 369†
Manufacturing in Railroad Shops, Report on, 1454D95°, 1454-D106†
Marion Railway Asks Authority to Discontinue
Passenger Service, 841

Maritime Provinces, Improved Conditions in, 48,
405 Marked Progress in Maintenance, 43\* Martin Circulator, Tests of, 255\* Masonry; A. R. E. A. Report, 628-D172†, 628-D182\* Massey Concrete Products Corp.: Crib Units, 628-D43\*
Master Boiler Makers' Association: Annual Convention, 1311, 1343
Master Car Builders' and Supervisors' Association;
Convention Program, 1454-D55†
Material Handling and Distribution, Report on,
1454-D156\* Material Handling Costs, Reducing, 1313\*
Material Handling Costs, Reducing, 1313\*
Materials and Supplies:
Classification, Report on, 1454-D83\*
Classifications for Motor Coaches, 1454-D149
Conserving, Methods of, Report on, 1454-D91\*
Controlling, Report on, 1548-D38\*
Costs in 1929, 69\*
Illinois Central Buys, How the, 1364\*
Manufacturing in Railroad Shops, Report on, 1454-D95\*
Motor Coach Operations, Report on, 1454-D147\*
Prices, Report on, 1454-D130\* Prices, Report on, 1454-D130\* Pricing, Methods of, Report on, 1548-D40\* Purchases, 1923-1929, 1416\* Purchasing Methods on European Railroads, 206\*
Specifications and Tests, 1548-D116\*
Specifications and Tests; Recommendations of A. R. A. Committee, 131
Specifications—The Tap Root of N. Y. C. Buying, 961\*
Standardization, Report on, 1454-D158\*
Stock Book Methods on the Lehigh Valley, 1454-D144\*
Stocks on Hand, 1423\*
Turnover Always of Primary Importance, Is, 1454-D139\*
Turnover, Average, 1425

Turnover Always of Primary Importance, Is, 1454-D139\*
Turnover, Average, 1425
Materials, New, Investigate Impartially, 1548-D98†
Materials to Service, Fitting, 1454-D56†
Maumee River Bridge; Toledo Terminal Ry., 464\*
Mayfield, W. A. (See Swift & Co.)
Mayo Ring-Gear Riveting and Punching Fixture, 1291\*
Meadville Coaling Plant; Erie, 865\*
Measuring Purchasing Department Efficiency, 1548-D36\*
Mechanical Department Progress, 1929, 3†
Mechanical Division (See American Railway Association)
Mechanical Force Stabilization, 422†
Mechanical Manufacturing Company; "Reciprocal Buying" Investigated, 131, 140, 205, 419†, 438, 479, 541†, 564, 598, 693, 771, 778‡, 929, 951†
Mechanics, Obtaining Competent, 309, 531‡, 740‡
Mechanics, Obtaining Competent, 309, 531‡, 740‡ 951†
Mechanics, Obtaining Competent, 309, 531‡, 740‡
Medal of Honor to C. M. Collins, 161
Medal of Honor to J. P. Glendennin, 487
Medal to Dr. Modjeski, John Fritz, 260
Medal to Dr. Sperry, 396
Medals for Valor; N. Y. C., 450, 658, 1085
Medals for Valor; P. R. R., 611
Mecker, Arthur, (See Waugh Equipment Co.)

### GENERAL INDEX—Continued

[Illustrated articles are indicated thus\*; Editorials thus+; Letters to Editor thus+]

Mercedes-Benz Vehicles with Diesel Engine, 1454-Merchandise, Storage of, on Piers, 215
Message Traffic Handled by Printers on P. R. R.,
1328\* Messinger Car Journal Bearings, 1454-D35\*
Messinger Hydraulic Piston-Rod Pusher, 1548-D90\*
Messinger Hydraulic Web Punch, 1548-D53\*
Messinger Roller-Bearing Side Bearings, 1454-D102\* Metal, Super Galvannealed Sheet, 1548-D160
Mexican Lines Improve Efficiency, 49\*
Mexican Visitors to A. R. E. A. Convention, 628-Mexican Mexican V D54 Mexican Lines Improve Efficiency, 49°
Mexican Visitors to A. R. E. A. Convention, 628-D54
Mexico: Improved Efficiency In, 49°
Mexico: Railway Construction in 1929, 62
Michigan Central: Annual Report, 1497
Michigan Central: Bridge Over Kettle Creek 1412°
Michigan Public Utilities Commission; Investigation of Motor Coach Rates Ordered, 744
Middle Creek: Rates, Joint, Bituminous Coal, 451
Midwest Shippers' Advisory Board: Meeting of, 406
Mileage Constructed in 1929, 54°
Mileage Tax Bill Introduced in Mississippi, 746
Mileage Tax Proposed in N. J., 742
Miller, Niles Keyseat, 1548-D76°
Miniature Railway, R. W. Kahn Has, 1084
Minneapolis & St. Louis Gas-Electric Cars, 475°
Minneapolis & St. Louis Gas-Electric Cars, 475°
Minneapolis & St. Louis Gas-Electric Cars, 475°
Minneapolis, St. Paul & Sault Ste, Marie:
Annual Report, 1212
Ore Traffic, Pooling of, 423°
Passenger-Train Service, Joint, Approved, 358
Minnesota: Liability on Trucking Company Sureties, 1547
Minnesota: Liability on Trucking Company Sureties, 1547
Minnesota: Motor Coach Statistics, 536
"Minnesota Supreme Court: Imported Personal Injury Cases, 936
"Minnesota, The;" C. G. W. Train, 988
Mississippi; Mileage Tax Bill, 746
Mississippi Motor Coaches Not Subject to County
Boards, 1545
Mississippi River Project, 471, 703, 842, 1047†, 1077, 1139, 1607
Mississippi Valley Barge Line: Application Op-1077, 1139, 1607
Mississippi Sleeping Car Tax, 983
Mississippi Valley Barge Line: Application Opposed, 239
Mississippi-Warrior Barge Line (See Inland Waterways Corp.)
Missouri-Kansas-Texas:
Annual Report, 1164
Conveyor for Loading Scrap, 389\*
Freight Service, Fast, 405
Locomotive Whistles to be Tested, 879
Store-Door Service, 1447, 1542
Welding Plant, 389\*
Missouri-Kansas-Texas Transportation Co., 1447, 1542
Missouri: Grade Crossing Survey, 305 Missouri: Grade Crossing Survey, 395 Missouri: Motor Truck Lines Exempt From Tax, 315 Missouri: Paris Missouri Pacific: Allegheny Corp., Control of, Hearing on Allegheny Corp., Control of, Hearing on 988

Annual Report, 1106
Centralized Control, 631†, 640°. 1491
Claims, Campaigns Reduce, 476°
Daily Records Aid Operations, 1247°
Freight Station at Little Rock, Construction Delayed, 1252
Geo Track, Experiment with, 137°
Grain Bin Exhibit Train, 1396
Model Exhibition Trains, 1251°
Old Account Settled, 935
Operating Results, 381°
Passes to Former Employees, 260, 354
Pensions and Insurance Advantageous to Employees, 923
Port Arthur-Beaumont Line Opposed, 988
Service Order, Mexican Traffic, 215
Trucks Instead of Trap Cars Effect Savings, 297 Van Sweringen Directors, 1216, 1264, 1352, 1353

Missouri Pacific Transportation Co.:
Equipment, Worn-Out, Disposing of, 311\$
Expansion Program, 1297
4,000-Mile System in One Year, A, 518\*
Large or Small Coaches, 1036\$
Notes, 534, 1545
Obtaining Competent Mechanics, 531\$
Operating Costs, 1929, 520
Purchase and Storage of Gasoline, 309\$
Time Table, New, 537
Missouri Public Service Commission: Alleghe Missouri Public Service Commission: Allegheny Corp., Control of M. P., Hearing on, 988 Missouri Public Service Commission Overruled by Court in M. P. Case, 748 Missouri River, Expenditures for, 1207, 1342.

Missouri River, Expenditures for, 1207, 1342, 1607

Model Exhibition Trains, M. P., 1251\*
Model Train for Chicago Fair, 1438
Modern Shops and Terminals, 1548-D97†
Modjeski, Ralph, John Fritz Medal to, 260
Moffat Tunnel Bonds, 356
Moffat Tunnel Hearing, 1202
Monon Transportation Company Formed, 1392, 1542

Montana Commission Sustained in Rate Case, 1607 Monticello Bus Company, 1542 Montreal Board of Trade: St. Lawrence Water-way Project Condemned, 147\*, 229† Montreal: Canadian National Plans Improvements, 681\* Montreal, Locomotive Shops at; C. N. R., 549\* Morale Builders, 1548-D164† More Cattle Moved by Truck, 543† More Unnecessary Motor Coach Lines, 503† More Test Data Needed, 630†

More lest Data Needed, 6301

Motion Pictures: Chicago Terminal Activities;
C. & N. W., 405

Motion Pictures of Turkestan-Siberian Railway,
266

Motor Cars, Demountable Wheel for, 352\*

Motor Cars, Demountable Wheel for, 352\*

Motor Cars, Maintenance, Standardization of Parts for, 628-D193, 628-D196\*

Motor Cars (See also Rail Motor Cars)

Motor Coaches:

Accident in N. M.; I. C. C. Report, 1543

A. C. F. Model 85, 735\*

Acquisition of Lines by P. S. I. T. Co., Approved, 749

Alton Transportation Company, 799, 1297, 1344, 1544

Applications Denied, 315, 537, 1041, 1298

Atlantic City Route Case, Court Refuses to Review, 743

Axle for Heavy-Duty Service, 1290\*

Applications Denied, 315, 537, 1041, 1298
Atlantic City Route Case, Court Refuses to Review, 743
Axle for Heavy-Duty Service, 1290\*
B. & O. Transfer Practices, 352, 405, 533, 1089, 1139
Boston & Maine Transportation Co., 507\*, 715\*, 743
Buffalo Interurban Bus Lines; Agreement with, P. R. R., 741
Burlington Transportation Company, 529‡
C. of G. Substitution, 1542
Central Union Bus Terminal, 515\*
Champlain Coach Lines, Inc., 314
C. M. St. P.& P. Proposes Substitution, 534, 1544
Claim Work, Co-ordinating, 1519\*
Cleaning of, 311‡, 529‡, 530‡
Colorado, Traffic In, 314
Competition or Monopoly? 517
Co-ordinated Transportation, 1028
Costs, Operating, Div. VIII Discusses, 1454-D143
County Transportation Co., Inc., 1514\*
De Camp Bus Lines, Inc., 1041, 1542
Denver-Colorado Springs-Pueblo Motor Way, 734\*, 740‡, 1294‡
Drivers, How Much Work from, 310‡
Economy in Travel Stressed in Advertising, 746
Engine, Continental Model 20-Z, 307\*

746
Engine, Continental Model 20-Z, 307\*
Engine, Diesel, in Mercedes-Benz Coach, 1454-D44\*
Engines, Light-Weight Diesel, 731
Engines, Maintenance of, 1025\*
Equipment, Worn-Out, Disposing of, 311‡, 739‡

Equipment, Worn-Out, Disposing of, 311‡, 739‡
Expanding Operations and Adequate Maintenance, 503†
Express Traffic, What About, 1034, 1293‡
Fifth Avenue Coach Company Plans Terminal, 314
Films, Carriage of, Banned in Texas, 536
Georgia Motor Transport Co., 1542
Georgia Regulation Law Sustained, 1039
Great Western of Great Britain, 539, 720\*
Greyhound Corporation, 532, 574, 714†, 741\*, 781, 939, 1019\*, 1040
Greyhound Lines, 283\*, 315, 531‡, 533, 538, 574, 714†, 725\*, 741\*, 781, 939, 1019\*, 1023, 1040, 1540‡, 1606
Greyhound Management Company, 1036‡, 1606
I. C. Seeks Line in Illinois, 314
Improvements Planned; Pickwick-Greyhound Lines, 1299
Insurance, Liability; Nebraska Operators, 313

Insurance Rates in Oklahoma, 744
Interstate Coach Company, 535
Interstate Transit Lines, 174, 264, 276†, 301, 517, 534, 535, 1039, 1041, 1293‡, 1298, 1544 1544 Investigation of B. & O. Transfer Practices Asked, 352, 405 Investigation of Rates Ordered in Michigan,

744
Is Railway Operation Illegal? 276†
Jersey Central Transportation Co., 318, 515\*, 538, 1037\*, 1490
La Crosse & Southeastern Transportation Co., 533

Large or Small, 739, 1035‡
Lines, More Unnecessary, 503†
London & North Eastern, 721
London, Midland & Scottish, 721\*
London, Midland & Scottish, 721\*
Long Island Substitution, 1043
L. A. & S. L. Proposes Substitution, 1545
Maintenance (See Maintenance)
Material Classifications, 1454-D149
Mercedes-Benz with Diesel Engine, 1454D44\*
Mileage of Finnish Power 544

Mileage of Finnish Routes, 314 Minnesota Statistics, 536 Mississippi; Not Subject to County Board, 1545

Missouri Pacific Transportation Co., 3091. 3112, 518\*, 5312, 534, 537, 10362, 1297, 1545

Monon Transportation Company Formed, 1392, 1542
Monticello Bus Company, 1542
Motor Transit Company, 532
Motor Transit Corp. (See Greyhound Corp.)
Motor Transportation Company of the South, 536

New England Transportation Co., 310<sup>\*</sup>, 523<sup>\*</sup>, 533, 535, 538, 733<sup>\*</sup>, 746, 1036<sup>\*</sup>( 1043, 1294<sup>\*</sup>)
New Jersey Independent Denied Approval of Municipal Consents, 1298
New Jersey, Number in, 539
New York-Montreal Motor Coach Line, 314
Nite Coaches, Pickwick, 1040
North Carolina Operators Segregate Races, 747, 1545
N. P. Subsidiary Organized, 312
Northland Greyhound Lines, 1345
Northland Transportation Co., 724\*, 1036<sup>‡</sup>, 1293<sup>‡</sup>
Operating Costs, Trends in, 529, 740<sup>‡</sup>

1293‡
Operating Costs, Trends in, 529, 740‡
Operation Discussed by Div. VIII, 1454D143
Operation, Growth of, 1925-1929, 102\*
Oregon Stages, Inc., 314, 532, 1538‡, 1541‡
Pacific Greyhound Lines, Inc., 1041, 1296, 1542, 1548
Pacific Transportation Securities Acquires
Lines in California, 532
Patronage of Automobile Owners, Getting, 1538
Pennsylvania General Transit Co., 534, 1039.

1538
Pennsylvania General Transit Co., 534, 1039, 1041, 1295
P. R. R.-Greyhound Rail-Motor Coach Service, 574, 714†, 741\*, 781, 939 (Discontinued), 1040
P.R. R. Seeks Train-Connection Service, 352, 405, 493, 533, 780, 1089, 1139
People's Rapid Transit Company, 743, 1025\*, 1541‡

People's Rapid Transit Company, 743, 1025°, 1541‡
Philadelphia Rural Transit Company, 1278°
Pickwick Corp., 313, 315, 316, 317, 517, 535, 1040, 1533°, 1545
Pickwick Duplex, 1040, 1533°
Pickwick Duplex, 1040, 1533°
Pickwick Greyhound Lines, 174, 264, 276†
301, 517, 535, 536, 1040, 1299, 1542, 1543
Pickwick Stages Income, 1929, 1043
Production Methods Applied to Body Repair and Painting, 1278°
Progress in 1929, 5†
Public Service Complaints Dismissed, 1041
Public Service Interstate Transportation Co., 749, 1297
Public Service Terminal at Newark, 314
Rail-Highway Co-ordinating Plans of Japanese Railways, 1300
Rail-Motor Coach Co-ordination in Great Britain, 720°
Rail-Motor Coach Service, B. & M., 1045
Rail-Motor Coach Service, P. R. R.-Greyhound, 574, 714†, 741°, 939, 1040
Rail-Motor Coach Tours; Southern Ry,, 1296
Reading Transportation Co., 311‡, 515°, 740‡, 744, 1037°, 1490
Reciprocal Ticketing Agreements, 1040

Reading Transportation Co., 311‡, 515\*, 740‡, 744, 1037\*, 1490

Reciprocal Ticketing Agreements, 1040

Reclamation, 739‡

Regulation Proposed in California, 314

Relay Model K B Suspension Drive, 305\*

Rio Grande Motor Way, Inc., 535, 734\*, 740‡, 1041, 1541‡

Routes, Co-operative Operation of, 277†

Routing Chart; Greyhound Lines, 726\*

Safety Record in Ohio, 1297

Safety, The Problem of, 1268†

Santa Fe Expands "Detour" Highway Service, 1152, 1283\*

Santa Fe Iransportation Co., 530‡, 533, 740‡

Scott Passenger and Express Body, 734\*

Sizes, Trend in, 1504†

Sizes, Trend in, 1504†

Sizes, Trend in, 1504†

Sleeper Service, 533

Southern (Great Britain), 721

Southland Greyhound Lines, 1039

Southwastern Transportation Co.: 1295, 1544, 1546

Spokane, Portland & Seattle, 739‡

Spokane, Portland & Seattle Transportation Co., 1296

Spring Cover, Steel, 1033\*

Stations on S. P. Lines, 510\* (Photo)

Statutory Privileges Denied Line in Receivership in Ohio, 746

Substitutions, Div. VIII Discusses, 1454–D143

Substitutions, Div. VIII Discusses, 1454-D143 D143
Supplies, Report on, 1454-D147\*
Tax Injunction Granted in Georgia, 316
Taxation Plan in Virginia, 317
Taxes, Special, in 1929, 313
Tennessee Central Files Applications, 1040
Terminals, Locating and Operating, 309
T. & P. Substitution, 1508\*
Tourist Traffic, Summer, Developing, 1292, 1541‡

Traffic Managers, Meeting of, 1545
Trans-Continental Connections; Reading and
Jersey Central, 1490
Travelers Aid Bureaus Opened in Terminals,
1296

U. P. Control of I. T. L. Opposed, 174, 264, 276†, 301, 535 Union Pacific Stages, 310‡, 1298, 1539‡, 1544 Wabash Organizes Subsidiary, 1295 West Virginia Transportation Co., 1293‡, 1530† West V 1539‡ Western Slope Motor Way, 740‡
White Exhibit at Atlantic City, 1454-D45\*
White Model 65-A Chassis, 527\*
Wisconsin Commission to Enforce Rules, Wisconsin Commission to Enforce Rules, 1296
Year 1929, Operations Extended, 102\*
Yellow Type W, Increased Power in, 1031\*
Motor Competition Not as Serious in Canada as in U. S., 47
Motor Competition, Superintendents Discuss, 1592 Motor Compension, 1592 Motor Haulage Company, Inc.: Dispatching Plan, 1274\* Plan, 1274\*
Motor Transit Co., Acquired by P. T. S., 532
Motor Transit Corp. (See Greyhound Corp.)
Motor Transport: Motor Transit Co., Acquired by P. 1. S., 532
Motor Transport:

Can Highway Transport Stand on Its Own Feet? 903†
Competition; Int. Ry. Congress Report, 1517
Co-ordination with Railroads, 14\*
Developments in 1929, 103\*, 276†
Developments Since 1926, 1509\*
Every-Day Problems, 309\*, 529\*, 739\*, 1034\*, 1202\*, 1538\*
Express Motorways, Commission to Study, 1207
Int. Ry. Congress Report, 1517
I. C. C. Investigation, 1202, 1248, 1295, 1505†
Legislation Affects Progress, 512
New York-New Haven Express Highway Planned, 838, 903†
Operations in 1929, 5†
Rail vs. Road in Germany, 1306†
Railway Operation, Results of, 1512
Regulation, 538, 982, 1039
Regulation; Parker Bill, 161, 275†, 295\*, 358, 534, 539, 568, 615, 658, 701, 742, 774, 838, 880, 915, 10084; 1009, 1202, 1252, 1267†, 1295, 1342, 1543, 1606
South African Railways, 534, 747
Tax Decision, Texas, 1546
Trends in 1929, 102\*
Uniform Accounting for, 1269†
Motor Transport News, 312\*, 532\*, 741\*, 1037\*, 1295\*, 1542\*
Motor Transportation Company of the South, Notes, 536
Motor Trucks:
Applications Denied, 315, 1038, 1545 Applications Denied, 315, 1038, 1545
Autocar Six-Wheel, 1288\*
Baltimore & Ohio, 10353
Boston & Maine, 10344
Brake Drums and Linings for, G. B. Ingersoll on, 289
Brockway Double Reduction Drive, 1536\*
Cammack Freight Line Gets Permit, 1546
Cattle Moved by, More, 5437
Chicago, St. Paul, Minneapolis & Omaha, 10354
Class Rates Prescribed in Advances Motor Trucks: 1035‡ Class Rates Prescribed in Arkansas, 1299 Classification, Uniform for Freight, 1505†, 1521 Columbia Terminals Co., 314, 1527\* Co-ordinated Transportation, 1028 Developments, 1007† Developments, 1007† Dispatching Plan for Haulage, 1274\* Dispatching System; Columbia Terminals, Effect of Service on Design and Operation of Freight Station Facilities, 628-D137 Engine, Autocar Blue Streak, 1288\* Engine, Diesel, in Mercedes-Benz Truck, 1454-D44\* Engine, Diesel, in Mercedes-Benz Truck, 1454-D44\*
Engine, Diesel, in Mercedes-Benz Truck, 1454-D44\*
Engine, Waukesha, 304\*
Engines, Light-Weight Diesel, 731
Federal Model T-10, 1030\*
Freight Service, Operating in, 739, 1034‡, 1292‡
Freight Services in 1929, 104
Great Western of Great Britain, 539, 1525\*
Insurance Rates in Oklahoma, 744
International Model A-5, 736\*
L. C. L. Shippers Want, What, 1269†
London & North Eastern, 1525
London & Morth Eastern, 1525
London Midland & Scottish, 1525
London Midland & Scottish, 1525
London Midland & Scottish, 1525
London Island Substitution, 1043
Maintenance (See Maintenance)
Mercedes-Benz with Diesel Engine, 1454-D44\*
M-K-T Transportation Co., 1447, 1542
Missouri Lines Exempt from Tax, 315
Missouri Pacific Transportation Company, 1297
Motor Haulage Company, Inc., 1274\*
N. A. C. C. Educational Campaign, 1043
New England Transportation Co., 533
New York Central, 286\*
N. Y. C., Contract; Ohio Decision Upheld, 743
N. Y. C., Ohio Application, 1038
New York, New Haven & Hartford, 1035‡
N. P. Abandons Minnesota Freight Trucking
Plan, 1042
N. P. Subsidiary Organized, 312 N. P. Abandons Minnesota Freight Trucking Plan, 1042 N. P. Subsidiary Organized, 312 Operation, Div. VIII Report on, 1548-D4 Operation in Lieu of Trap Cars, Savings from, 297 Pacific Electric Motor Transport Co., 537 Pacific Motor Transport Co., 540, 746

Pennsylvania Independents Fined, 1544
P. R. R. Plan Rejected in Maryland, 1545
P. R. R. Services, 1547
Perishables Moved by, 1044
Perishables Received in New York, 535
Progress in 1929, 54
- aail-Motor Truck Co-ordination in Great
Britain, 1523\*
Rail-Motor Truck Service; Southwestern
Fransportation Co., 1014\*
- tailroads Lose Business to, How, 1551†
Railway Express Agency, 277†, 278\*, 673†,
745\*, 1024\*, 1038, 1301, 1530\*
Railway Service Extended by, C. M. St. P.
& P., 502†, 504\*
Rates in Texas, 315
Rates, Stabilizing, 1505†, 1521
Robinson, Harry R., Ordered to Discontinue
Operation, 741
Safety Rules, 1454-D94
St. Louis Southwestern, 1035‡
St. Louis Trucking Case, 535
Schacht Series 25, 304\*
Southern Railway (Great Britain), 1526
Southwestern Transportation Co., 314, 1014\*,
1295, 1296, 1546
Sterling Model DW-20, 526\*
Sterling Model DW-20, 526\*
Sterling Model EWS-40, 1535\*
Stewart Model 31-K, 1289\*
Store-Door Service (See Store-Door)
Sureties, Liability on, 1547
Taxation, Analysis of, 291\*
Tennessee Central Files Applications, 1040
Terminal at Sioux Falls; C. M. St. P. & P.,
1039
Texas & Pacific Motor Transport Co., 1270\* 1039
Texas & Pacific Motor Transport Co., 1270\*
T. & P. Substitution, 1508\*
Texas R. R. Commission Order, 1544
Traffic, Winning Back from the Truck Lines, 1270\* Texas & Pacific Motor Transport Co., 1270\*
T. & P. Substitution, 1508\*
Texas R. R. Commission Order, 1544
Traffic, Winning Back from the Truck Lines, 1270\*
United States Trucking Corp., 316
White Exhibit at Atlantic City, 1454-D45\*
Why Truck Lines Attract Traffic, 729
Wilson Transportation Company, 502†, 504\*, 1039, 1544
Yazoo & Mississippi Valley Loses Case, 1040
Year 1929, Operations Extended, 102\*
tor Vehicles:
Accidents, What Steps to Avoid, 1292, 1539‡
A. R. E. A. Report on, 628-D205
Controlling the Speed of; A. A. Bull on, 521\*
Engines Wear Out, Why, 1273
Legislation Affects Progress, 512
Mail, Carriage of, 1547
Maintenance Costs, How Close a Check on, 1034
12942, 15392
Manley Pneumatic Elevator, 1291\*
Orders in 1929, 104
Rim Stripper, Weaver, 1032\*
Road Failures and Their Prevention, 1538
Safety Rules; California R. R. Commission, 1281
Supplies on Hand, Keeping Adequate, 529
Taxation: Bureau of Standards Investigation. Supplies on Hand, Keeping Adequate, 529
Taxation; Bureau of Standards Investigation, Taxation; Bureau of Standards Investigation, 1298
Taxes in 1929, 1037
Tires, Goodyear Balloon, 528\*
Transmission, Fuller Medium-Duty, 1537\*
Underwriters Proposed Rates Rejected, 744
Mountain-Climbing Equipment, 837\*
Mountain Operations Move Smoothly, 959\*
Moving Pictures of Power-Brake Tests, 1548-D159
Multiple-Orew Runs Needed, More, 1548-D161†, 1548-D174
Multiple Tunnels, 1605
Multiple Unit Cars Tested by D. L. & W., 1394\*
Multiple Unit Electric Cars; Reading, 762\*, 764
Multiple Unit Electric Cars; Reading, 762\*, 764
Municipal Consents, Elimination of, Urged in New York, 317
Museum, Railroad, Proposed, 392‡, 753, 934‡ 1298

Nashville, Chattanooga & St. Louis:
 McDonald, H., Honored, 628-D56
 "Volunteer"; New Train, 1396
National Air Transport Plans New York-Chicago
 Passenger Service, 785
National Association of Motor Bus Operators, 534, 536, 747
National Association of Motor Coach Traffic Managers Formed, 1545
National Association of Railroad Tie Producers:
 Annual Convention, 1063\*, 1073, 1122\*
 Future of Crosstie Buying, 1063\*
 Tie Buying Has Changed, 1073
National Association of Travel Agencies Formed, 841
National Automobile Chamber of Commerce:
 Educational Campaign, Truck Department, 1043
 "Facts and Figures in the Automotive Industry," 1299
National Carbide Sales Corp.: Signalman's Lantern, 1389\*
National Conference on Street and Highway Safety, 1137, 1342, 1387
National Freight Company, 451
National Highway Transport Corporation Formed, 314
National Industrial Traffic League Opposes Rate National Industry Base, 936 Industrial Traffic League Opposes Rate

National Passenger Club Proposed, 988
National Railway Appliances Association:
Annual Meeting, 628-D37
Exhibit at Coliseum, 628-D37, 628-D25\*
Officers, 628-D27\*, 628-D37, 628-D25\*
Officers, 628-D27\*, 628-D37
National Railway Devices Co.: Shoemaker Safety
Fire-Door Closer, 1548-D95\*
National Railways of Mexico:
Branch Opened, 982
Mejorada, J. S., President, 711\*
Operating Results, 49\*
National Safety Council Plaques, 937, 1143, 1253
National Safety Council Plaques, 937, 1143, 1253
National Safety Council: Safety Rules for Track
Cars, 1439
National Steel Car Company of Canada; Reparations Claim, 787
Net Ton-Mikes, 1924-1929, 24\*
Netherlands: Railway Operations in 1929, 124
Nevada Northern, Harriman Medal Awarded to, 1606
New Books (See Books and Articles of Special Interest; also, Book Reviews at end of index)
New England Consolidation Proposals: N. Y. C.
Attitude on, 938
New England Consolidations; Sir H, Thornton on, 840
New England Railroad Centenary, 1203, 1375\*
New England Regional Advisory, Roard: Meeting New England Railroad Centenary, 1203, 1375\*
New England Regional Advisory Board: Meeting of, 785
New England Transportation Co.:
Brazing Spring Shackles, 733\*
Co-ordination with New Haven Trains, 533
Cylinder Blocks, Relined, 733\*
Express Traffic, 1294‡
Large or Small Coaches, 1036‡
Motor Coach Drivers, How Much Work from, 310‡
Motor Coach Equipment Modernized, 523\*
Notes, 535, 1043
Operating Results in 1929, 746\*
Providence Terminal, Offer to Build, 538
New England Transportation Problem, 161
New Jersey:
Canal Construction Advocated, 265
Grade Crossing Elimination Discussions, 404
Interstate Business Not Taxable, 536
Lighterage Case (See Lighterage Case; New York)
Mileage Tax Proposed, 742
Motor Coaches, Number of, 539 XOR)
Mileage Tax Proposed, 742
Motor Coaches, Number of, 539
Jersey Independent Denied Approval of Municipal Consents, 1298 New Lines (See Construction, New)
New York Central:
Annual Report, 1494
Boosting Coach Travel Has Its Limitations,
1383\*
Car Retarder of Table 1383\*
Car Retarders at Toledo, 439\*
Cars, Container, 1454-D15, 1454-D112\*
Cleveland Union Terminal, 1549†, 1553\*
Consolidation of New England Railways; P.
E. Crowley on, 938
Contract Trucking; Ohio Decision Upheld, 743
De Luxae Coach Train Operation, 1383\*
Electrification Progress, 42\*
Form for Reporting Damage to Automobiles,
405 405
Full-Crew Law, Ohio, 396
Geo Track, Experiment with, 137\*
Grand Central Terminal Changes, 632\*
Heating Apparatus for Electric Locomotives, 1548-D158 1548-D158
Icing Dining Cars, 1454-D36\*
Medals of Valor, 450, 658, 1085
Motor Truck Operations, 286\*
Ohio Trucking Permit, Application for, 1038
Oil-Electric Locomotive, 1548-D71
Pensions, 611
Poultry-Management Train, 939
Safety Records, 615
Sleeping Car Service; Chicago to Columbus, 358 358
Specifications—The Tap Root of Buying, 961\*
Stock Offered to Employees, 421†, 937
Submarine Cable Ducts, Laying of, 1050\*
Train Time Shortened, 843
Waybill, Gigantic, 1251

Train Time Shortened, 843
Waybill, Gigantic, 1251
New York, Chicago & St. Louis:
Cleveland Union Terminal, 1549†, 1553\*
Consolidation Procedure, 566
P. & W. V. Control of W. & L. E., Hearings on, 1475, 1603
New York (City):
Freight Station, Inland; Agreement Reached, 1253, 1342
Grade Crossing Elimination, 982
Grade Crossing Elimination Act Amended, 879
Lighterage Case, 215, 492, 702
Motor Coach Terminal, 515\*
Suburban Passenger Traffic, 939
New York-New Haven Express Highway Planned, 838, 903†
New York-New Haven & Hartford:
Clipper Ships Commemorated on "Yankee Clipper," 1201
Enginemen Honored, 1487
Greer Switch Heating Device, 628-D110\*
Heating Apparatus for Electric Locomotlyes, 1548-D157
How a Local Crosstie Supply was Developed, How a Local Crosstie Supply was Developed, 1126 1125 Motor Coaches and Trucks (See New England Transportation Co.) Operating Results, 678\*

### GENERAL INDEX—Continued

[Illustrated articles are indicated thus\*; Editorials thust; Letters to Editor thust]

Operating Trucks in Freight Service, 1035‡ Providence Port Development, 781 Valuation, Final, 220, 270, 1003, 1216 "Yankee Clipper, The," 174, 661, 854\*, 936, 1201

New York-Philadelphia-Washington Airway Corp., 1396 York, Pittsburgh & Chicago: Pennsylvania Line, Hearings on, 346, 602\* (Brief Filed),

Note: Hearings on, 340, 602 (Brief Flied), 875
W York Public Service Commission:
Freight Rates, Hearings on Completed, 1152
L. I. Ordered to Expand Suburban Service, 1086, 1153, 1341
W York Railroad Club:
Contribution of Air Brake to Transportation, 347°
Flectrification of Railroads in Prospect, 544°

Steel Founders' Contribution to the Railroads,

Steel Founders' Contribution to the Railroads, 867\*

New York Regional Plan Committee; Terminal Proposals, 660, 1203

New York Society of Model Engineers, 449

New York State):

Canals, Transfer to U. S. Recommended, 889, 936, 1047†, 1077, 1138, 1342, 1490, 1607

Grade Crossing Elimination, 879, 982, 1085

Grade Crossing Protection, Cost of, 260, 397

Legislation, 1085, 1143

Public Service Commission; Additional Appropriation, 982

New York Terminal Proposed; Regional Plan Committee, 1203

New York Transfer Company; Rate Increase Asked, 1207

New York, Westchester & Boston: Motor Transport (See County Transportation Co.)

New Zealand Government Railways: Progress in 1929, 128

Newcomet, H. E., Address of, 628-D7

Newsprint Rates, Canadian; Hearings on, 939, 1259, 1610

Nicaragua: Railroad Survey, 396

Nigerian Railways; Annual Report, 704

Niles Improved 90-In. Quartering Machine, 1548-D85\*

Niles Keyseat Miller, 1548-D76\*

Niles Keyseat Miller, 1548-D76\*

Niles Keyseat Miller, 1548-D76\*

Niles Improved 90-In. Quartering Machine, 1548-D85\*
Niles Keyseat Miller, 1548-D76\*
Niles 27-In. Lathe, 1548-D79\*
1929 Witnessed Marked Increase in Communication Plants, 116\*
Nite Coaches, Pickwick, 1040
Nitrided Forgings, 1548-D53
Norfolk & Western:
Annual Report, 790
Clerks Awarded Increase, 395
Operating Results, 765\*
Track-Laying Records, 981
North American Car Corporation, 616
North Atlantic Terminal Railway Co., 163
North Carolina Operators Segregate Races in Coaches, 747, 1545
Northern Pacific:
Annual Report, 1348
Highway Subsidiary Organized, 312
Interchange with C. P. R. at Winnipeg, 841
Land Grants, 355
Last Spike Drivers, 1084
Low-Cost Farming Special, 1610
Minnesota Freight Trucking Plan Abandoned, 1042
Ore Traffic, Pooling of, 423\*

1042 Ore Traffic, Pooling of, 423\* Passenger-Train Service, Joint, Approved, 358 Purchase of Part of C. B. & Q. Considered, 936 936
Train Time Shortened, 842, 1089
Trains Newly Equipped, 1152, 1371\*
Twenty-Year Old Case Settled, 700
Veterans, Young, 1486
Unification Plan, 556, 834, 931, 972, 1082, 1483, 1601
Northern Pacific Transport Co.:
Minnesota Freight Trucking Plan Abandoned, 1042

1042

1042
Organized, 312
Northern Railway of France; Purchasing and Stores Methods, 206\*
Northland Greyhound Lines, 1545
Northland Transportation Company:
Express Traffic, 1293\$
Garage at Minneapolis Enlarged, 724\*
Large or Small Coaches, 1036\$
Northwestern Pacific; Employee Group Insurance, 1202

Northwestern Pacine; Employee Group Insurance, 1202 Norway: Railway Operations in 1929, 123 Number of Employees in 1929, 29 Number of Employees (See also Employee: Wages-Statistics)

Nut Driver, Hercules, 1454-D51° Nut Lock, MacLean-Fogg, 1454-D34°

4

# 0

Oakite Products, Inc.: Okemco Cleaning Solution, 1548-D54
Obtaining Competent Mechanics, 309, 531‡, 740‡
Odds and Ends of Railroading, 160, 211, 259, 354, 394, 449, 486, 570, 610\*, 657, 700, 779,

837\*, 878, 981, 1084, 1142, 1201, 1251\*, 1340, 1391, 1438\*, 1486\*, 1605
Oeste de Minas Ry., Electrification Project, 1345
O'Fallon (See St. Louis & O'Fallon)
Off. Season Advertising; C. N., 650\*
Office; C. & O. Purchase, at Cleveland, 1186\*
Office Methods, Report on, 1454-D150\*
O'Hara, R. (See Swift & Co.)
Ohio Commission Grants Trucking Certificate to Express Agency, 1301
Ohio Commission Refuses Certificate to Railway Express Agency, 1038
Ohio Commission Sanctions Small Crews on Rail Cars, 838, 1606
Ohio Commission Upheld in New York Central Trucking Case, 743
Ohio Full-Crew Law; N. Y. C., 396
Ohio Motor Coaches; Safety Record, 1297
Ohio River, Transportation on, 319t, 323\*
Ohio Statutory Privileges Denied Line in Receivership, 746
Ohio Valley Shippers' Advisory Board, Meeting of, 1090
Ohmer Ticket Printing Machine 10 C. Prof. 1606

ship, 746
Ohio Valley Shippers' Advisory Board, Meeting of, 1090
Ohmer Ticket Printing Machine on S. P., 652
Oil and Paint Store; C. & N. W., 329\*
Oil-Burning Snow Melter, 628-D10\*
Oil-Burning Switch Heater, 628-D207\*
Oil Clarifier, Tolhurst, 1548-D133
Oil-Electric Locomotive Exhibits, 1548-D71\*
Oil-Electric Locomotive, Westinghouse, 1427\*
Oil-Electric Locomotives, Mech. Div. Report on, 1548-D150
Oil-Electric Switcher Tested by Baldwin, 937
Oil-Electric Train; Reading, 1454-D108\*, 1454-D109\*
Oil Engines, 1548-D135†

Oil-Electric Train; Reading, 1454-D108\*, 1454-D109\*

Oil Engines, 1548-D135†
Oil Engines, 1548-D135†
Oil for All-Year Service, Tests of, 1454-D68
Oil Handling, C. & N. W. Improves, 329\*
Oil Reclaimer, Skinner Junior, 306\*
Oil Reducer, Detroit Automatic, 1548-D88\*
Oils, Lubricating, Reclamation of; A. C. L., 425\*
Okemco Cleaning Solution, 1548-D54
Oklahoma Insurance Board Rejects Underwriters'
Proposed Rates, 744
Old Account Settled, M. P., 935
"Old Home Week" for the Motor Transport Division, 1454-D2†
Oldest Railway Employee, 700
On-Time Record; Western Region, P. R. R., 1342
One-Man Hoists, 628-D207\*
Only Woman Shop Employee; U. P., 610
Open Top Observation Cars on U. P., 1396
Operating a Co-ordinated Rail-Motor Truck Service, 1014\*
Operating Efficiency:
Fuel Performance Best Index of, 1131\*
Improvements in Service Due to, 135†, 153\*, 185†, 195\*
Year 1929, 29\*
Operating Expenses: Investing Capital to Reduce, 2†
Operating Problems, Graobic Charts for, 913\*

Operating 1,000-Mile Divisions; S. P., 823\* Operating Problems, Graphic Charts for, 913\* Operating Revenues (See Revenues) Operating Statistics: Monthly Figures: October, 164, November, 262, December, 490, January, 782, February, 984, March, 1256, April,

erating Studies:
Atchison, Topeka & Santa Fe, 959\*, 1065\*
Atlanta & St. Andrews Bay, 1334
Baltimore & Ohio, 919\*
Buffalo, Rochester & Pittsburgh, 645\*
Daily Records Aid Operations; M. P., 1247\*
Illinois Central, 251\*, 355
Missouri Pacific, 381\*, 1247\*
Mountain Operations Move Smoothly; A. T. & S. F., 959\*
New York, New Haven & Hartford, 678\*
Norfolk & Western, 765\*
Operating 1,000-Mile Divisions; S. P., 823\*
Reading, 605\*
Southern, 827\*
Southern, 827\*
Value Pacific, 823\*, 1189\*
Union Pacific, 967\*
Wabash, 863\*
rrating Trucks in Freight Service, 739, 1034\*, Operating Studies: Atchison, Tope

Operating Trucks in Freight Service, 739, 1034‡, 1292‡
Operation, Railway, Economics of, 628-D203\*
Operations, Daily Records Aid; M. P., 1247\*
Opportunity for All Railway Delegates, An, 1454-D55†

Opportunity for All Railway Delegates, An, 1454-D55†
Opportunity, What Constitutes an, 1454-D1†
Order of Railway Conductors; Hand Brakes, Controversy on, 655‡, 866
Ore Traffic; A. T. & S. F. Operations, 959\*
Ore Traffic; Pooling Results in Savings, 423\*
Oregon: Klamath Falls Line Approved, 1595\*, 1606
Oregon Pony, The, 981\*, 1340‡
Oregon Short Line, Harriman Medal Awarded to, 1606
Oregon Stages, Inc.:
Accidents, Steps to Avoid, 1541‡
Express Traffic, 1538‡
Pacific Stages Acquired, 314, 532
Oregon-Washington Railroad & Navigation Co.:
Harriman Medal Awarded to, 1606
Oregon Line Construction Protested, 1392, 1487, 1611
Safety Plaque Winner, 1143, 1253

Osgood Bradley Car Company: Merger Plans, 151\*
Outstanding Improvements in Service Characterize 1929, 35\*
Overhead and Underground Lines, Report on. 628-D13\*

Origin of Standard Gage, 1340 Original Railroad Charters, 935 Orphans' Home, Sand Spring Railway Owned by, 444\*

### P

P. & C. Company; One-Man Hoists, 628-D207\*
Pacific Electric Motor Transport Company Seeks
Freight Route, 537
Pacific Great Eastern; Negotiations with Canadian.
Pacific Great Eastern; Negotiations with Canadian.
Pacific Greyhound Lines, Inc.:
Equipment Ordered, 1542
Fares Reduced for Summer, 1548
Operating Results in 1929, 1296
Organized in California, 1041
Pacific Motor Transport Company; Notes, 540, 746.
Pacific Northwest Regional Advisory Board: Meeting of, 1448
Pacific Transportation Securities: Lines in California, 532
Pads. Rubber Cushioning, 1454-D41\*, 1548-D9
Paducah & Illinois: Trains Operate by Signal Indication, 141\*
Paige & Jones Electro-Magnetic Chemical Proportioner, 1454-D46\*
Paint, Locomax Front-End, 1548-D160\*
Palace Live Poultry Car Company, 616
Paris, Lyons, Mediterranean: Locomotives, Electric, 427\*
Parker Bill for Motor Transport Legislation, 161, 2757, 295\* (Provisions of), 358, 534, 539, 568 (Revised), 615, 658, 701, 742, 774, 838, 880, 915, 1008†, 1009, 1202, 1252, 1267†, 1295, 1342, 1543, 1006
Parker-Fess Bill, 917
Parking Facilities for Railway Passengers, 628-D136
Parmelee, J. H.: Railway Operations in 1929, 23\*

Parker-Fess Bill, 917

Parking Facilities for Railway Passengers, 628-D136

Parmelee, J. H.: Railway Operations in 1929, 23\*

Parsons: Reclamation Facilities; M.K.-T., 389\*

Partial Seasoning of Wood, 387

Passenger Business; C. of N. J. Increases, 769\*

Passenger Business: Coach Travel on S. P., 343\*;

N. Y. C., 1383\*,

Passenger Business, Innovations to Stimulate, 201

Passenger Car Orders in 1929, 94\*

Passenger Car Prices in 1929, 77\*

Passenger Car (See also Car and Cars)

Passenger Fares:

Air and Rail Reduced; P. R. R., A. T. & S.

F. 215

B. & O. Proposed Coach Fare Padvation 2020

F. 215
B. & O. Proposed Coach Fare Reduction, 889, 939, 1040
Extra; I. C. C. Inquiry, 481, 888, 1381
Pacific Greyhound Lines Reduce, 1548
Pickwick-Greyhound Lines Reduce, 536
Pullman Company Reduces Rate on Sleeping.
Cars, 888
Reduction on P. R. R. Excursion Trains, 1602

Cars, 888 Reduction on P. R. R. Excursion Trains, 1607 Reductions, 1088 (D. & S. L.); 1447 (St. L.-S. F. and I. C.) T. A. T.-Maddux Air Line Increase, 1490

Passenger-Miles, 1924-1929, 24 Passenger Officers as Sales Managers, 186† Passenger Schedules; Chicago-Pacific Coast War, 1089, 1208, 1396

To89, 1208, 1396

Passenger Schedules, Effect of Changes in, 953†

Passenger Service:
Air-Rail (See Aviation)
Classes of, New, Advocated, 629†
Coach Travel on S. P., 343\*; N. Y. C., 1383\*
Competition, Is There Too Much, 1355†
Delays Caused by Blizzard, 781
Fast Trains, New, 174, 215, 661, 1396
Improvements in 1929, 5†, 35\*
L. I. Ordered to Expand Suburban Service, 1086, 1153, 1341
Malolo Boat Train, 265
N. A. T. Plans New York-Chicago Service, 785

N. A. T. Plans New York-Chicago Service, 785
P. R. R. Discontinues Service on Millstone-Branch, 785
Rail-Motor Coach Service, P. R. R.-Grey-hound, 574, 714†, 741\*, 781, 939 (Discontinued), 1040
Sleeping Car Service, Through, 1207
"Train Secretaries" on Pennsylvania, 265
Train Time Shortened, 173, 661, 785, 842, 843, 888, 938, 953†, 988, 1088, 1089, 1259, 1396.

888, 938, 953†, 988, 1088, 1089, 1259, 1396.

Passenger Terminal, A Great, 1549†, 1553\*

Passenger Traffic:

Advertising; Methods Employed in Great
Britain, 695
Advertising, Off-Season; C. N. R., 651
Air-Rail (See Aviation)
Coach Travel on S. P., 343\*; N. Y. C., 1383\*
14 Per Cent of Earningss Produced by, 952†
Interchange at Winnipeg; G. N.-C. P. R.,
703, N. P.-C. P. R., 841

Merchandising, Some Constructive Comments on, 698‡ Passenger Officers as Sales Managers, 186† Revolution in, 811† Source of, A New, 629† Suburban, New York, 939 Trends, 671† Year 1929, 24\*

Passenger Traffic Officers (See American Associa-Passes to Former Employees; M. P., 260, 354
Passing of the Semaphore, 420†
Patronage of Automobile Owners, Getting, 1538
Paymasters, Armored Car For, 628-D169\*
Peace River Pacific Outlet Favored, 1204, 1394
Peacock No. 450 Brake, 1454-D41\*
Pears, Iceless Refrigerator and Heater Car for, 921\*
Peek, A. B. Co.: N. V. C. Content Tenting Peek, A. B. Co.; N. Y. C. Contract Trucking, 743
Peerless Hylastic-Steel Friction Draft Gear, 1454D41\*

D41\*
Pels Combination Punch and Shear, 1454-D103\*
Pels Gate Shear, 1454-D53\*
Pels Type FV-23 Bar and Billet Shears, 1454-D52\*
Pencil Grinder, Hercules, 1454-D51\*
Pennroad Corporation; Railroad Ownership Investigation, 872

Pennsylvania:

Air-Rail Service, 215, 358, 406, 842, 1490

A. R. A. Special Train, 1454-D12, 1454-D108

Arehart, Thomas B., Unusual Record of, 1487

Atlantic City Route Case, 743

Boat-Train Service, 1207

Buffalo Interurban Bus Lines, Agreement with, 741

741
Bureau of New Ideas, 1202
Car, All-Steel Express Refrigerator, 1454-D16
Car, Box, 1454-D16
Car Retarders; Pitcairn Yard, 1551†, 1584\*
Car, Well-Type Flat, 1454-D16
Cars, Container, 1454-D15
Cars, Hopper, 1454-D15, 1454-D111\*
Cars, Single-Room Sleeping, 1607
Celotex Used in Travel Shop, 628-D50\*
Clayton Act Hearing on Wabash Stock, 1240, 1332

Calotex Used in Travel Shop, 628-D50\*
Clayton Act Hearing on Wabash Stock, 1240, 1332
Coal Dumping Pier, 879
Coal Dumping Pier, 879
Coal Rate to Youngstown Disapproved, 842
Coal Unloading Record, 1490
Co-ordinated Transportation, 1027\*
Cresson Division Transferred, 161
DeLuxe Coaches, 1454-D17
Demurrage, Fined for Not Collecting, 1490
Electric Operation Extended, 1607
Electrification Progress, 41\*
Excursions to Cleveland and Toledo, 1153
Facilities Consolidated with D. T. & I., 701
Fares on Excursion Trains Reduced, 1607
Farmers' Tour, 492
Ferry Charges Reduced, 842
Fine for Violation of Law, 658
Freight Car Inspection Pit, 1454-D105†, 1454-D118\*
Golf Club Opened by Employees, 1392
Greyhound Lines, Interest in, 1019\*
Land Purchased, 781
Locomotive Beacon, Traveling, 487
Locomotive, Mountain Type, 1548-D68\*
Mail Sacks Removed by Army Blimp, 1486
Medals for Valgr, 611
Message Traffic Handled by Automatic Printers, 1328\*
Motor Coaches (See Pennsylvania General Transit)
Motor Truck Plan Rejected in Maryland, 1545

Motor Coaches (See Pennsylvania Transit)
Motor Truck Plan Rejected in Maryland, 1545
Motor Truck Services, 1547
New York to Philadelphia Trains, 493
On-Time Record; Western Region, 1342
Passenger Service on Millstone Branch Discontinued, 785
Pittsburgh Division, Model of, 700
Posters, Historical, 1145
Posters, Historical, 1145

Passenger Service on Millstone Branch Discontinued, 785
Pittsburgh Division, Model of, 700
Posters, Historical, 1145\*
Rail Motor Car, 1548-D73\*
Rail Motor Coach Service, 574, 714†, 741\*, 781, 939 (Discontinued), 1040
Rail, 130-lb., Laying of Completed, 658, 703\*
Railroad Ownership, Widening, 852†
Rea-Newhall Memorial, 660
Rea, Samuel, Statue of Unveiled, 880, 989\*
"Reforestation" Special Train, 890, 1089
Roller Bearings on Coal Cars, 395
Safety Awards, 396
Safety Lecture Letter, 489
Sheaffer, D. M., Heads T. A. T. Executive Committee, 358
Shop Workers, Six-Day Week for, 355
Signals, Cab, 493, 628-D12
Stockholders, Number of, 162, 395
Tickets, Four-Day Round Trip, 1490
Tickets, Long, 981
"Train Secretaries" on DeLuxe Trains, 265
Train Time Shortened, 785, 843
Transportation Club Annual Dinner, 356
Unit Loading of Clay Products Tested, 958
Warehouses, Contract, Allowances to Prohibited, 215, 405
Women's Aid; Annual Report, 983
Insylvania General Transit Co., Notes, 534, 1039, 1041, 1205

Pennsylvania General Transit Co., Notes, 534, 1039, 1041, 1295
Pennsylvania Line, Hearings on, 346, 602\* (Brief of N. Y. P. & C.), 875
Pennsylvania Truckers Fined, 1544

Pension Liability Be Accrued Currently, Should, 1113†, 1118
Pension System; M. P., 923
Pensions; C. of G., 1392
Pensions; N. Y. C., 611
People's Rapid Transit Co.:
Engines, Maintenance of, 1025\*
Notes, 743
Tourist Traffic, Developing, 1541‡
Pere Marquette:
Concrete Roadbed, New Type, 237\*, 1309\*
Engineman's Record, 1201
Radio Lioense Cancelled, 1439
Periodic Purchasing; H. W. Rolston on, 1454D140\*
Perishable Freight Route from California, 1153
Perishable Freight Traffic, Growth of, 1490
Perishables Moving by Motor Truck, 1044
Perishables Trucked Into New York, 535
Persia: Trans-Persian Railroad Opened, 174
Peru: Railway Progress in 1929, 126
Petrokum Rates, Revision Proposed, 174
Philadelphia Rural Transit Company: Production Methods Applied to Body Repair and Painting, 1278\*
Pickwick and Affiliates Enter Interchange Plan, 1040
Pickwick Capitalization Increased, 317

Pickwick and Affiliates Enter Interenange Plan, 1040

Pickwick Capitalization Increased, 317
Pickwick Euplex Motor Coach, 1040, 1533\*
Pickwick Earnings Increase, 316, 1545
Pickwick Equipment Orders, 1542
Pickwick Expanding Mexican Services, 315
Pickwick Expanding Mexican Services, 315
Pickwick Opens New Hotel; Salt Lake City, 517
Pickwick Predicts Extension of Sleeper Service, 535
Pickwick's Plans for 1930, 313
Pickwick-Greyhound Lines:
Accident in New Mexico, 1543
Equipment Ordered, 1542
Fare Reduced, 536
Improvements Planned, 1299
Iowa Permit Granted, 517, 535, 1040
Reciprocal Ticketing Agreements, 1040
U. P. Operation of I. T. L. Opposed, 174, 264, 2767, 301, 535
Pickwick Stages Income, 1929, 1043

Pickwick Stages Income, 1929, 1043 Piedmont & Northern: Bill for Injunction Against I. C. C. Dis-missed, 571

Electrification, 911\*
I. C. C. Seeks to Enjoin Construction Work, 987

1. C. C. Seeks to Enjoin Construction Work, 987
Locomotive, Electric, 911\*
Piling Used for Marine Construction, 628-D120
Pilliod Company; Center-Hung Baker Valve Gear, 1548-D80\*
Pinch Bar with Saw-Tooth Grips, 1454-D101\*
Fipe Clamp, Alco, 1548-D83\*
Pipe Clamp, Wedge-Type, 1454-D47\*
Pipe Connections, Corley, 1548-D132\*
Pipe Connections, Flexible Ball Joints for, 1548-D75\*
Pipe Coupling, Flexible, 870\*
Pipe, Culvert; A. R. E. A. Report on, 628-D82
Pipe Lines, Report on, 628-D69
Pipe, Walworth, 1548-D54\*
Piston-Rod Pusher, Messinger Hydraulic, 1548-D90\*
Piston Rods, Extended, Comment on, 980\$

Piston Rods, Extended, Comment on, 980\$ Pitcairn Yard Car Retarders; P. R. R., 1551†,

1584\*
Pitting, Three Methods of Preventing, 1380
Pittman Bill for Fourth Section Amendment, 1259, 1384
Pittsburgh & Lake Erie: Coal Rate to Youngstown Disapproved, 842

town Disapproved, 842

Pittsburgh & West Virginia:
Consolidation Procedure, 566
"Fifth System" Plan Proposed, 1475, 1603

Pivot, Smith Wheel, 1454-D33\*

Planning Expenditures Now for 1931, 1548-D97†

Plate Shear, S & N, 1454-D54\*

Plymouth Gas-Electric Locomotive, 1548-D73
"Plugging the Leaks," 987

"Plugging the Leaks," 987
Pole Industry, Creosoted, Developments in, 1241\*
Polish State Railways:
Budget for 1930, 205
Equipment Purchases Financed, 266
Progress Since 1917, 122
Political Rate-Making; C. E. Cotterill on, 1070
Pontchartrain Railway, Centenary of, 700
Pooling Ore Traffic Results in Savings, 423\*
Foppet Valves; D. & H. 4-6-2 Type Locomotive, 767\*
Poppet Valves, Lentz, 688
Popular Science Monthly; Prize Offered, 161
Pork Barrel, The Same Old, 1047†
Port Arthur-Beaumont Line Opposed, 988
Port of New York Authority; Powers Enlarged, 983
Port of New York Authority: Union Inland

Port of New York Authority: Union Inland Freight Station, 1253, 1342
Port Terminal Charges; Separate Statement Proposed, 988
Fortable Volt-Ammeter, 628-D45\*
Positive Drive, Diehl, 1548-D78\*
Post, New Buda Bumping, 628-D44\*
Posters, Historical; P. R. R., 1145\*
Poultry Car; Wabash, 843
Poultry-Management Train; N. Y. C., 939
Fowdered Fuel; H. N. Rodenaugh on, 1178
Power and Heat for the Grand Central Terminal Area, 632\*

Power Brake Investigation, Progress of, 1548-D35, 1548-D159
Power Brake Investigation, Report on, 1245
Power-Brake Tests, Moving Pictures of, 1548-D159
Power Door with Emergency Hand Chain, 628-D167\*

Diof?\*
Power Plants, Motor Car, 1548-D2†
Power Plants, Motor Car, 1548-D2†
Power Throttle Gear, 1548-D76\*
Power Transfer Relay, Specification on, 628-D16\*
Power Unit, Fansteel Small, 628-D111\*
Preparedness, Lesson in, 185†
Preservation, Timber (See Timber; also Wood Preservation)
Preservative Treatment of Engelmann Spruce Ties, 387
President's Dinner; A. R. E. A., 628-D6
Pressures for Applying Steam Chest and Cylinder Bushings, 1548-D148\*
Prevention of Wet Grinding Corrosion, 1454-D50
Preventive Activities of Claim Conferences, 1469
Preventive Maintenance Methods Reduce Road Calls, 1514\*
Prices:

es: Equipment in 1929, 74\* Labor and Materials, 1454-D130\* Materials and Supplies in 1929, 69\* Standards and Car Lumber, 1454-D56†, 1454-D88\*

Stock, High, Danger in, 561
Pricing Materials, Methods of, Report on, 1548-

Printers, Automatic, P. R. R. Message Traffic Handled by, 1328\*
Printers, Report on, 1454-D153\*
Private Car Case, 161, 487, 936, 1372, 1439
Private Car Case, 161, 487, 936, 1372, 1439
Private Offered by Popular Science Monthly, 161
Problem of Education, A, 1049†
Problem of Safety, The, 1268†
Production, Reclamation a Problem of, 1454-D106†
Products and By-Products of Purchasing, 1454-D140\*
Profit, Shop Cleanliness Pays a, 1008†
Progress Report, Fifth, of Special Committee on Stresses in Track, 628-D85\*
Promotions, Report on, 1588
Proportioner, Electro-Magnetic Chemical, 1454-D46\*
Proposed Legislation, 874

Proportioner, Electro-Magnetic Chemical, 1454D46\*
Proposed Legislation, 874
Prospect for Electrification of Railroads, 544\*
Prosperity:
Economies in Operation, 13\*
Increasing the Railroads' Patrons', 672†
Railways' Contribution to, 7\*
Protection (See Crossings, Highway Grade)
Providence Port Development: N. Y., N. H. & H., Statement, 781
Public Relations:
Claim Agency, View of, 1307†, 1318\*, 1322
Education and the Railroads, 371†
Interviewing Prospective Employees, 1335
Purchasing, Products and By-Products of, 1454-D140\*
Traffic Men Should be Trained, 876‡, 902†
Public Service Commission of N. Y., Additional Appropriation, 982
Public Service Coordinated Transport: New Jersey Board Dismisses Complaints, 1041
Public Service Corporation of New Jersey: Motor Coach Terminal, Newark, N. J., 314
Public Service Interstate Transportation Co.: Acquisition of Motor Coach Lines Approved, 749, 1297
Pullman Car & Manufacturing Corp.:

quisition of Motor Coach Lines Approved, 749, 1297

Pullman Car & Manufacturing Corp.:
Carry, Champ, Honored, 1486
C. B. & Q. Equipment, 590\*
N. Y., N. H. & H. Deluxe Equipment, 854\*, 936
N. P. Newly Equipped Trains, 1371\*
Southern Pacific Lounge Cars, 754\*
Union Pacific Dining Cars, 241\*

Pullman Car Order; South Carolina R. R. Commission, 1088
Pullman Cars, Changes Since 1858, 1195\*

Pullman Company:
Largest Inn-Keeper, 394
Liacoln Funeral Train, 610\*, 878
Rate on Sleeping Cars Reduced, 888
Safety Contest, 451
Safety Plaque Winner, 1143, 1253

Pullman Incorporated; Annual Report, 787

Pullman Incorporated; Annual Report, 787

Pullman Incorporated; Merger with Standard Steel
Car Co., 151\*, 664

Pump-Type Fire Extinguisher, 1454-D47\*

Punch, Messinger Hydraulic Web, 1548-D53\*

Purchases:
Equipment Orders in 1929, 78\*, 85\*, 94\*, 99\*, 104\*

Illinois Central Buys, How the, 1364\*
Methods on European Railroads, 206\*, 253\*

104\*
Illinois Central Buys, How the, 1364\*
Methods on European Railroads, 206\*, 253\*
Specifications—The Tap Root of N. Y. C.
Buying, 961\*
Telegraphic Code Recommended by Div. VI,
1454-D150
Traffic and Purchases, Investigation of:
Swift & Company, 131, 140, 205, 419†, 438,
479, 541†, 564, 598, 693, 771, 778‡, 929,
951†
Waugh Equipment Company, 926, 1252.

9517 Waugh Equipment Company, 926, 1252, 1373, 1431, 1478 Turnover Always of Primary Importance, Is, 1454-D139\*

### GENERAL INDEX-Continued

[Illustrated articles are indicated thus\*; Editorials thust; Letters to Editor thus1]

Turnover of Materials and Supplies, 1425 Years 1923-1929, 1415\* Purchases and Stores (See Materials and Supplies) Purchases and Stores Division (See American Railway Association)
Purchasing and the Jobber, 184†, 257‡, 609‡
Purchasing Department, Cost of Operating, 322†
Purchasing Department Efficiency, Measuring, 1548-D36\* Purchasing, Products and By-Products of, 1454-D140\* Pyle-National Duplex Distribution Valve, 1548-D77 Pyrene Pump-Type Fire Extinguisher, 1454-D47\*

## Q

Q & C Bosch Lubricator, 1548-D131\*, 1548-D160 Quality Development in 1930, 17\* Quartering Machine, Niles Improved 90-In., 1548-D85\* Queens Terminal Proposed; Regional Plan Com-mittee, 1203 Quick Wheel-Change Truck, Buckeye, 1454-D31\*

### R

Radial Coupler; American Steel Foundries, 1454-D31\*
Radial Drilling Machine, 1454-D51\*
Radio Licenses Cancelled, 1439
Radio, Safety Preaching by, 1252
Radio Telephones for Long Freight Trains and for Yard Work, 628-D205
Radio, Trains Equipped with; C. M. St. P. & P.,
680
Rail:

A. R. E. A. Report, 628-D114†, 628-D150\* Batter, Cause and Prevention, 628-D153 Concrete Roadbed; Pere Marquette, 237\*, 1309\* Concrete Roadbeds Be Given Further Trial, Should, 1457† Contour Machine, 628-D167\* Corrosion in Tunnels, 628-D140 Detector Car, Sperry, 628-D114†, 628-D152, 628-D156 Weight of, What Is the, 1220†, 1231\* Failure Statistics, 628-D152
Intermediate Manganese, 595\*
K. C. S. Study of, 1220†, 1231\*
Lehigh Valley; 66-Ft. Prove Successful, 1171†,
1173\*

Lehigh Valley; 66-Ft. Prove Successful, 11717, 1173\*
Longer, 1171†, 1173\*
Orders in 1930, 630†
Production, 1974-29, 831
Records; A. T. & S. F., 814
Roadbed Construction, P. Chipman on, 1308\*
Stresses; A. R. E. A. Report, 628-D51†, 628-D85\*
Switch Point Protector, 628-D112\*
Tests of Alloy and of Heat Treated Carbon Steel, 628-D154
Train Resistance, 628-D202\*
Transverse Fissures; Detector Car, 628-D114†, 628-D152, 628-D156
Transverse Fissure (See also Transverse Fissure)

Transverse Fissure (See also Transverse Fissure)
Rail Anchor, Stead Improved, 628-D47°
Rail-and-Water Freight Rates, 405
Rail Fork, Safety, 628-D111°
Rail Haul, Length of, Will be Shortened by Inland Waterways, 969
Rail-Highway Co-ordinating Plans of Japanese Railways, 1300
Rail Joint Production in 1929, 1446
Rail Joints, A. R. E. A. Report on, 628-D51†, 628-D85°
Rail Joints: Design Rather Than Invention,

Joints: Design Rather Than Invention, 628-D51†

628-D311
Rail Motor Cars:
Axles, Report on, 1548-D24
Brake Equipment, Westinghouse, 1548-D49\*
Crews, Small, Allowed in Ohio, 838
Engine to Burn Distillate Fuel, 1074\*
Exhibits, 1548-D71\*
Final Tents, 1548-D123\*
Truck Chassis, 143 Exhibits, 1548-D71s\*
Fuel Tests, 1548-D123\*
Koppel Converts Dodge Truck Chassis, 1436\*
Minneapolis & St. Louis, 475\*
Orders in 1929, 99\*
Pennsylvania, 1548-D73\*
Power Plants, 1548-D2†
Reading, 1548-D73
Report of Mechanical Division, 1548-D123\*
Saving Weight, 1454-D105†
Westinghouse, 1548-D73\*
Rail-Motor Coach Co-ordination in Great Britain, 7147, 720\*
Rail-Motor Coach Service; B. & M., 1045

Rail-Motor Coach Service; B. & M., 1045
Rail-Motor Coach Service; P. R. R.-Greyhound,
574, 7147, 741°, 781, 939 (Discontinued),
1040
Rail-Motor Coach Service; P. R. R.-Greyhound,

Rail-Motor Coach Tours; Southern Ry., 1296
Rail-Motor Truck Co-ordination in Great Britain,
1523\*
Rail-Motor Truck Service; Southwestern Transportation Co., 1014\*
Rail Versus River Service, 811†, 904†
Rail Ves Road in Germany, 1306†
Railroad Accounts, Clearing House for, 609‡
Railroad Charters, Original, 935

Railroad Consolidations (See Consolidations)
Railroad Farm Lectures in Ontario, 1153
Railroad Museum Proposed, 392‡, 753†, 934‡
Railroad Ownership, Widening, 852†
Railroad Ownership (See also Holding Companies)
Railroad Supply Company: Interlocking with no
Mechanical Locking; C. R. I. & P., 373\*
Railroad Survey in Nicaragua, 396
Railroad Traffic and Earnings, 751†, 1406†
Railroadier, A Campaigning, 570
Railroading as a Career for College Men, 1548D15\*
Railroading Mayors, 1084

Railroader, A Campaigning, 570
Railroading as a Career for College Men, 1548D15\*
Railroading Mayors, 1084
Railroads and Education, 371†, 876‡
Railroads, Construction Procedure for Electrification of, 672†, 674\*
Railroads, Construction Procedure for Electrification of, 672†, 674\*
Railroads Lose Business to Trucks, How, 1551†
Railroads' Patrons, Increasing the Prosperity of, 672†
Railroads' Patrons, Increasing the Prosperity of, 672†
Railroads, Relations of Locomotive Builders and, 829
Railroads. Steel Founders' Consribution to, 867\*
Reilway Accounting Officers Association: Annual Meeting, 1113†, 1114\*
Railway Age Honored by Associated Business Papers, Inc., 1203
Railway and Locomotive Historical Society; Bulletins, 1086, 1489
Railway and Locomotive Historical Society, Railroad Museum Favored by, 934‡
Railway Business Association:
Howell Bill and Government Ownership, 1072
Johnson, A. B., on Development, 17\*
Railway Club of Pittsburgh; J. V. Miller on Material Handling Costs, 1313\*
Railway Club Secretaries, Meeting of, 1548-D58
Railway Construction (See Construction, New)
Railway Development, The Geologist's Place in, 1599
Railway Developments in 1929—Prospects for 1930, 1†
Railway Devices Co.: Wedge-Type Pipe Clamp, 1454-D47\*
Railway Express Agency:
Certificate Refused by Ohio Commission, 1301
Certificate Refused by Ohio Commission, 1301
Certificate Refused by Ohio Commission, 1301

Railway Express Agency:
Certificate Granted by Ohio Commission, 1301
Certificate Refused by Ohio Commission,
1038

Certificate Galacte by Ohio Commission, 1038
Gasoline, Testing of, 1024\*
Maintaining Motor Trucks in Isolated Districts, 1530\*
Possibilities for Joint Railway Utilization, 673†, 745\*
Truck Operations of, 277†, 278\*
Railway Finances in 1929, 63\*
Railway Fire Protection Association: News Letters, 161, 838
Railway First, in America, 259
Railway Junctions, Inaccessible, 160, 657
Railway Junctions, Inaccessible, 160, 657
Railway Labor Executives' Association: Consolidation Restrictions Asked for, 833
Railway Location, Report on Economics of, 628-D171†, 628-D200\*
Railway Maintenance Corp.; Ballast Cleaner, 628-Railway Security Issues in 1929, 65
Railway Security Issues in 1929, 65
Railway Service Extended by Motor Truck Operation, 502†, 504\*
Railway Service, Improved, Benefits of, 135†, 1153\*, 185†, 195\*, 245\*, 369†

Railway Service, Improved, Benents 61, 1331, 153\*, 185†, 195\*, 245\*, 369†

Railway Supply Manufacturers' Association:
Annual Meeting, 1548-D61\*
Deaths of Members, 1548-D62, 1548-D113
Down, S. G., President-Elect, 1548-D61\*
Enrollment Committee, 1548-D63\*
Enrollment Committee, Work of, 1548-D55†
Entertainment Committee, 1548-D60\*
Environment, A New, 1454-D11†
Executive Committee, 1454-D4\*, 1548-D62\*
Exhibit, 214, 1255, 1454-D14\* (Cars), 1454-D19\*
(Cars), 1548-D510\*
(Cars), 1548-D510\*
(Cars), 1548-D71\* (Motor-Driven Locomotives), 1548-D71\* (Motor-Driven Locomotives), 1548-D6161†
Officers and Committee Men, 1454-D4\*
Secretary Lamont, Congratulations from, 1548-D164
Secretary Lamont, Expression of Confidence

Secretary Lamont, Congratulations from, 1548-D164
Secretary Lamont, Expression of Confidence to, 1548-D137
Summing Up!, 1548-D163†
Transportation Committee, 1548-D66°
Railway View of Valuation, A, 1070
Railways Abroad in 1929, 119\*
Railways, Buying Lumber for the, 1454-D90
Railways, Contribution to American Prosperity, 7\*

\*\*Transportation of Committee Memory Plades for Expending the Committee of Committe

Railways Exceed Hoover Pledge for Expenditures, 12197, 1243

Railways, The Government and Business, The, 12197
Railways Will Spend \$1,200,000,000 for Improvements in 1930, 19\*
Ramapo-Ajax Corp.: Switch Stand, Three-in-One, 628-D48\*
Ruda No. 615, 1454-D54\*

628-D48\*
Ratchet Jack, Buda No. 615, 1454-D54\*
Rate Base Rule Proposed, 775, 809†, 851† 936, 1072, 1237 (I. C. C. Plant), 1439
Rate Controversies, Informal Settlement of Urged, 777, 1081
Rate Increase Asked; N. Y. Transfer Company, 1207

Rate-Making; Associated Traffic Clubs' Discussion, 1070

sion, 1070
Rate of Return and Depreciation, 1347
Rate Resolution Passed by Cleveland Chamber of Commerce, 889
Rates, Class, for Trucks Prescribed in Arkansas, 1299
Rates, Freight:

Rates, Freight:
Agricultural Products, Adjustment Proposed,
265

Order Modified, 1344

265 Barge-Rail Rate Order Modified, 1344 Barge-Rail Rates, 174, 341, 358 Classification, Uniform, for Trucks, 1505†, 1521
Coal; Hearing in Illinois, 574, 1396
Coal, Joint, in West Virginia, 451
Coal, to Youngstown Disapproved, 842
Commodity Values and, 690, 785
Fruit Rate Case, California, 1377, 1610
Galveston Rate Case, 574, 1153, 1606
Grain, Lower, to Maritimes Sought, 1143
Iron and Steel Articles, 215, 451
Lake Cargo Coal Controversy, 702, 888, 1259, 1490 1521

Lake-Rail; B. & O., 988
Long-and-Short Haul Amendment Proposed, 1259, 1384
Montana Commission Sustained, 1607
Motor Truck, Stabilizing, 1505†, 1521
N. Y. Public Service Commission Completes
Hearings, 1152
Newsprint Paper, Hearing on, 939, 1259, 1610
Petroleum, Revision Proposed

Petroleum, Revision Proposed, 174, 264 Rail-and-Water in the West, 405 Rail and Water, Joint; I. C.-Duckenbach Line,

1208 Rail-and-Water, Joint, in Louisiana, 288 Tariff on Barge-Rail Shipments in Southern States Suspended, 574 Tariffs on Joint Rates in West Suspended, 616 Western Canada Rate Case, 265 Western Colorado Fruit Shippers' Application,

Rates, Low, Offered to Stimulate Holiday Travel,

Rates, Motor Coach; Investigation Ordered in Michigan, 744
Rates, Passenger (See Passenger Fares)
Rates, Switching, Proposed for Chicago District,

Rates, Switching, Proposed for Chicago District, 1088
Rating Capacity of Car Lighting Batteries, 1548-D145
Rating Electric Locomotives, 1548-D135†. 1548-D154
Rationalization, 1548-D162†
Rea-Newhall Memorial, 660
Rea, Samuel, Statue of, 880, 989\*
Reading:
Accidents, Fatal, Number of, 346
Annual Report, 620
Atlantic City Route Case, 743
Car, Box, 1454-D15\*
Car, Caboose, 1454-D16\*
Car, Gondola, 1454-D16\*
Car, Gondola, 1454-D14\*
Cars, Multiple Unit Electric, 762\*, 764
Doylestown Branch to be Electrified, 1254
Electrification, 41\* 214 (Power Contract), 761\*
Locomotive, 2-10-2 Type, 1548-D69\*
Cit Electric Teste, 1454 D100\*

Electrification, 41\* 214 (Power Contract), 761\*
Locomotive, 2-10-2 Type, 1548-D69\*
Oil-Electric Train; 1454-D108\*, 1454-D109\*
Operating Results, 605\*
Passenger Coach, 1454-D17
Rail Motor Car, Brill, 1548-D73
Scrap Dock Being Constructed at Reading, 1056
Shops at Wayne Junction, 764
Storehouse at Reading, 1055\*
Warehouses, Contract, Allowances to, Prohibited, 215, 405
West Trenton Station Opened, 1613
Reading Transportation Co.:
Central Union Bus Terminal. 515\*
Highway Services, Expanded, 1037\*
Keeping Motor Coaches Clean. 311‡
Operating Costs, Trends in, 740‡
Operating Results in 1929, 744
Trans-Continental Motor Coach Connections, 1490
Recapture Campaign, Funds for, 390, 442, 472, 548
Recapture: New Rate Base Rule Proposed, 775,

Recapture: I. C. C. Alternative Plan, 1237
Recapture: New Rate Base Rule Proposed, 775, 809†, 851†, 936, 1072, 1237, 1439
Recapture Report; Brimstone R. R. & Canal Co., 607, 846
Receipts Per Traffic Unit, 1921-1929, 27
Receiverships in 1929, 67

Receiverships; Settlement of Government Loans, 1446

"Reciprocal Buying" and Self-Regulation of Industry, 419†, 571

"Reciprocal Buying"; Federal Trade Commission Investigations:

Swift & Company, 131, 140, 205, 479, 541‡, 564, 508, 693, 771, 778‡, 929, 951†

Waugh Equipment Company, 926, 1252, 1373, 1431, 1478

"Reciprocal Buying" Investigation Proposed by Senator, 419†, 438

Reciprocal Ticketing Agreements, 1040

Reclamation:

"Dope" Laundry; A. C. L., 425\*

M.K.T Facilities, Additions to, 389\*

More Careful, 1548-D97†

Motor Coaches, 739‡

Problem of Production, A, 1454-D106†

Report on, 1548-D43\*, 1548-D97†

Reclamation and Handling of Track Materials, by D. C. Curtis, 593\*

Reclining Coach Seats, 560\*

Re-coopering; Freight Claim Division Report, 1468

Re-coopering, Uniformity in, 405

Record in Furnishing Freight Cars, 230† Receiverships; Settlement of Government Loans,

Re-coopering, Uniformity in, 405
Record in Furnishing Freight Cars, 230†
Recorders, Impact; Tests at Chicago, 1470
Recorders, Impact, Use of, 396, 405
Records; A. R. E. A. Report, 628-D179\*
Records, Track-Laying; N. & W., 981
Rectifier Unit, Fansteel, 628-D111\*
Reduced Grades or Larger Power, 628-D171†, 628-D201
Reducing Railway Material Handling Costs, 1313\*

628-D201
Reducing Railway Material Handling Costs, 1313\*
Refinements of Design of Locomotives, Possibilities in, 673†
"Reforestation" Special Train; P. R. R., 890, 1089
Refrigeration, Electric, 1548-D146
Refrigerator and Heater Car, Iceless, 921\*, 1454-D14\*
Refrigerator Car, All-Steel, Events, P. P. R.

Refrigerator Car, All-Steel Express; P. R. R. 1454-D16

Refrigerator Car, All-Steel Express; P. R. R. 1454-D16
Refrigerator Cars, Discussion, of 1490
Refrigerator Cars, Divided Basket Bunker vs. Brine Tanks in, 1392
Regal Car-Window Screens, 1454-D43\*
Regenerative Braking on Electric Locomotives, 1548-D135†, 1548-D154
Regional Plan Committee:
New York Terminal Proposed, 660
Queens Terminal Proposed, 1203
Regulation:
Bills in Kentucky and Virginia, 395
Georgia Motor Coach Regulation Law Sustained, 1039
Motor Coach; Interstate Situation, 275†
Motor Coach; Status of, 1008†
Motor Transport, 538, 982
Parker Bill, 161, 275†, 295\*, 358, 534, 539, 568, 615, 658, 701, 742, 774, 838, 880, 915, 1008†, 1009, 1202, 1252, 1267†, 1295, 1342, 1543, 1606
Regulation, Government, Do We Want More?,

Regulation, Government, Do We Want More?,

stors, Royal Foundation Brake-Gear, 1454-Regulat

D37\*
Regulatory Authorities, Free Transportation for, 215, 370†
Relations of Locomotive Builders and the Railroads, 829
Relationship Between Safety and Economy, 1548-D162†, 1548-D167\*
Relationship of the Law Department to the Accounting Department; R. V. Fletcher on, 1114
Relay, A-C Power-Transfer, Specification on, 628-D114\*
Relay, Indication, 628-D114\*

Relay, Indication. 628-D111\*
Relay Model K B Motor Coach. 305\*
Relay, Time-Element, with Checking Contact 628-D47\*

D47\*
Relay, Type-K Interlocking, 628-D49\*
Release Rigging, Rotary Coupler, 1454-D33\*
Reliability and Waterways, 903†
Reliance Machine & Stamping Works: Spee-D
Universal Grease Gun, 1548-D89\*
Reliance Manufacturing Co.: Spring
Washer, 628-D44\*
"Relieving" the Railways of Low-Rated Traffic, 752† "Relieving

"Relieving" the Railways of Low-Rated Traffic, 752†
Remote Control for Steam Locomotives, 1154
Remote Control Installations in 1929, 115
Remote Control; Methods of Determining Economic Value of, 628-D23\*
Renaissance of Safety, by J. J. Rhoads, 484
Reorganization of Canadian National, 615, 938
Replacement Accounting (See Railway Accounting Officers Association)
Republic Steel Corp.: Tests of Enduro on the Firebox Plate, 1548-D134
Research, Investment in, Pays, 1406†, 1429
Reseating Tools for Exhaust-Steam Injector, 1548-D134\*
Reseating Tools for Feedwater Heater, Dexter,

D134\*
Reseating Tools for Feedwater Heater, Dexter, 1548-D96\*
Resistance Unit, Fansteel, 628-D46\*
Reunion. Transportation Corps Association, 983
Revenues & Expenses:
Canadian Railways,172, 397, 615, 839, 1086,

Monthly Detail Figures: November, 166, December and Twelve Months, 398, 488, January, 612, February, 882, March, 1146, April, 1440

Monthly Summaries: November, 163, 261,
December and Year 1929, 489, 572, January, 661, 784, February, 881, 986, March, 1152, 1205, April, 1446, 1488
Passenger Trattic Produces But 14 Per Cent of Earnings, 952†
Rallway Larnings in 1929, 461†
Tendencies That Demand Attention, 901†
Year 1929, 1†, 26, 461†
Reverse Directions of Trains, 259, 779‡
Review of Railway Operations in 1929, 1†, 23\*
Revolution, The New Industrial; Dyer, G. W., on, 628-D158
Rhodesia: Railway Construction, 1192
Rhodesia: Railway Construction, 1192
Rhodesia Railway Commission: Sir William Hoy, Death of, 662\*
Rigging, Rotary Coupler Release, 1454-D33\*
Rim Stripper, Weaver, 1032\*
Ring-Gear Riveting and Punching Fixture, Mayo, 1291\*
Ring Joint for Use in Jacking Pipe, 628-D109\*
Rio Grande Motor Way, Inc.:
Notes, 535, 1041
Operating Costs, 740‡
Passenger and Express Motor Coach Body, 734\*
Tourist Traffic, Developing, 1541‡
River Crossings, 160, 610, 878, 981

Passenger and Express Motor Coach Body, 734\*
Tourist Traffic, Developing, 1541‡
River Crossings, 160, 610, 878, 981
River Crossings and Tunnels, 1486\*
River Versus Rail Service, 811†, 904†
Rivers and Harbors; A. R. E. A. Report, 628D197\*
Rivers and Harbors Bill, 572, 658, 987, 1047†, 1077, 1138, 1207, 1342, 1490, 1607
Rivers and Harbors Improvement Program, 213
Riveting and Punching Fixture, Mayo Ring-Gear, 1291\*
Riveting Machines, Electro-Mechanical, 1454-D52\*
Road Failures and Their Prevention, 1538
Roadbed; Is Our Present Construction Ideal?, 1308\*
Roadbed, Pere Marquette Concrete, 237\* 1309\*

1308\*
Roadbed, Pere Marquette Concrete, 237\* 1309\*
Roadbeds, Concrete, Be Given Further Trial,
Should, 1457†
Roadway, A. R. E. A. Report on, 628-D81\*
Roadway, 1929 Record Year for, 4†
Robbery of Freight in 1929, 888
Roberts & Schaefer Co.:
Sand Tanks, Steel, for Coaling Plants, 628D44\*
Sanding Facilities, Automatic, 628-D168\*

Sanding Facilities, Automatic, 628-D168\*

Sanding Facilities, Automatic, 628-D168\*
Robertson V-Beam Sheet Roofing, 628-D50\*
Robinson, Harry R., Ordered to Discontinue Truck Service, 741
Rod Grinder, Locomotive, 1548-D80\*
Roebling, J. A. Co.; Gondola for Shipping Bridge Cables, 1454-D16
Roller-Bearing All-Pullman Trains on N. P., 1371\*
Roller Bearing, Shafer Self-Alining, 1548-D49\*
Roller-Bearing Side Bearings, 1454-D102\*
Roller Bearings on Coal Cars, 395
Roller Bearings on P. R. R. Hopper Car, 1454-D15, 1454-D111\*
Roller Bearings: Timken Demonstration Locomotive 1225\*, 1548-D68
Rolling Stock (See Car; also Locomotive)
Rolling Stock Cartel Formed in Europe, 1398
Roofing, V-Beam Sheet, 628-D50\*
Rosevear Family: C. N. R., 878
Rotary Coupler Release Rigging, 1454-D30\*, 1454-D104\*
Rotating Coach Seats, 560\*
Roumanian Railways in 1929, 1209
Royal Foundation Brake-Gear Regulators, 1454-D37\*

Royal Foundation Brake-Gear Regulators, 1454-D37\*

Rubber Cushioning Pads, 1454-D41\*, 1548-D9
Rubberized Passenger-Car Truck, 1454-D41\*,
1548-D9
Rules, A. R. E. A. Report on, 628-D74\*
Rules; Car-Hire, 375
Rules for Consolidation Procedure, 243, 440, 566
Rules, Loading: Recommendations of A. R. A.
Committee, 131
Rules, Loading, Report on, 1454-D131\*
Rules of Practice, Addition to, 780
Rules, Store Department, Report on, 1454-D86\*
Rules, Tractor and Truck, 1454-D94
Rumbler, Draper Flue, 1548-D81\*
Russia:

Russia:
R. Budd to Study Soviet Railroads, 395, 983, 1393
Railway Operations in 1929. 121
Visitors at P. & S. Convention, 1454-D58
Russian Views Signal Convention.A, 628-D6
Rust Solvent and Penetrating Lubricant, 1454-D43
Putland: Locomotives, 4-6-2 Type, 437\*

Rutland: Locomotives, 4-6-2 Type, 437\* Ryan Car Company: Annual Report, 707

S & N Plate Shear, 1454-D54\* Sacramento Northern: Freight Service, Through, 1207 1207
Safety and Economy, Relationship Between, 1548-D162†, 1548-D167\*
Safety Appliance Order Modified, 450
Safety Appliances, Report on, 1548-D35\*
Safety Awards: P. R. R., 396
Safety: Central of Georgia Trophies, 611 Safety Committees on Railroads, 1454-193\*
Safety Contest; B. & O., 613
Safety Contest; Pullman Co., 451
Safety; Further Studies Needed, 392‡
Safety; G. M. & N. Interests Boys in, 1370\*
Safety; Harriman Medals Awarded, 1006
Safety Letter; P. R. R., 489
Safety Meetings, Forms for Reporting, 1454D94\*
Safety Preaching by Radio, 1252
Safety Record; A. C. L., 161
Safety Record; Ohio Motor Coaches, 1297
Safety Record; St. L.-S. F., 773
Safety Record, What is a Good, 1199‡
Safety Record, What is a Good, 1199‡
Safety Record, What is a Good, 1199‡
Safety Records; N. Y. C., 615
Safety Refrigeration, Inc.: Iceless Refrigerator and Heater Car, Silica Gel, 921\*, 1454D14\*
Safety, Renaissance of, 484
Safety, Rules for Track Cars, 1439
Safety Rules of California Railroad Commission, 1281
Safety Section:
Accident Statistics Analyzed, 1322
Circulars, 213\*, 250, 488 (Train Accidents), 701, 938, 1172†, 1176
Safety: Southern Ry. Shops, 487
Safety: Southern Ry. Shops, 487
Safety: Suggestions as to Adequate Signaling, 584†, The Problem of, 1268†
Safety Trophies Awarded by National Council, 937, 1143, 1253
Safety Work, Div. VI Report on, 1454-D93\*
Safety (See also Accidents)
St. Lawrence Waterway Project: Committee; Canadian Conference, 358
St. Lawrence Waterway Project Condemned, 144\*, 229†
St. Louis & O'Fallon: Effect of Decision on Railway Stocks, 5†

St. Lawrence Waterway Project Condemned, 147\*, 229†

St. Louis & O'Fallon: Effect of Decision on Railway Stocks, 5†

St. Louis & O'Fallon: Valuation Decision, 321†, 334, 349 (Arguments on), 1159

St. Louis Car Company: Rail Cars; M. & Sj. L., 475\*

St. Louis: Freight Trucking Case, 492, 535

St. Louis: Freight Trucking Case, 492, 535

St. Louis: Freight Trucking Case, 492, 535

St. Louis-San Francisco:
Employee Sentenced, 1085, 1439
Employees' Clubs; Business Secured, 616
Fare to Memphis Reduced, 1447
Safety Record, 773
Sleeping Car Service, Through, 1207

St. Louis Southwestern:
Merchandise Service Improved, 358
Motor Transport Operations, Results of, 1513
Motor Transport (See also Southwestern Transportation Company)
Operating Trucks in Freight Service, 10352
Operation of G. & N. I., 173
Train, New, 215

St. Louis Union Station Trainshed Expanded, 954\*

Salvador: Railway Progress in 1929, 128

Salvador: Railway Progress in 1929, 128
Same Old Pork Barrel, The, 1047†
San Bernardino, Santa Fe Stores Hold Meeting
at, 814\*
San Francisco Bay: Ferry Service; S. P., 187\*
Sand Springs Railway Owned by Orphans' Home,
444\*

Sand Tanks, Steel, for Coaling Plants, 628-D44\* Sander, Hanlon Locomotive, 1548-D88\* Sanding Facilities, Automatic, 628-D168\* Sanitary Control of Water; R. E. Coughlan on,

Sanitation; A. R. E. A. Report on, 628-D68\*
Santa Fe (See Atchison, Topeka & Santa Fe)
Santa Fe Transportation Co.:
"Detour" Highway Service Expanded, 1152,
1283\*

Keeping Motor Coaches Clean, 550†
Notes, 533
Obtaining Competent Mechanics, 740‡
Saving Motor Car Weight, 1454-D105†
Saving That Has Not Yet Arrived, A, 422†
Savings:

Car Retarders in Yard Operation; P. R. R., 1551†, 1584\*
Centralized Control; M. P., 631†, 640\*
Fuel, in 1929, 631†
Improved Railway Service, 135†, 153\*, 185†, 195\*, 245\*, 369†
Long Engine Runs; G. N., 643\*
Motor Coach Substitution on T. & P., 1508\*
Pooling Ore Traffic, 423\*
Signals, Automatic; C. C. C. & St. L., 628-D23\*
Tractors: Use by Railroads, 857\*

D23\*
Tractors: Use by Railroads, 857\*
Treated Wood, 396.
Saws, Stanley Safety, 1548-D52\*
Scales; A. R. E. A. Report on, 628-D138
Schacht Series 25 Motor Truck, 304\*
Scholarship at Stevens Institute of Technology,

987
Scholarships to be Awarded by B. & O., 936
Scott Body Co.: Passenger and Express Motor
Coach, 734\*
Scott, J. B. (See Waugh Equipment Co.)
Scrap; C. & E. I. Junks Old Power Fast, 1222\*
Scrap Dock Being Constructed; Reading, 1056
Scrap (See also Reclamation)
Screens. Car. Window, 1454-D43\*
Scully Steel & Iron Co.: Draper Flue Rumbler,
1548-D81\*

# GENERAL INDEX-Continued

[Illustrated articles are indicated thus\*; Editorials thus+; Letters to Editor thus+]

Seaboard Air Line: Motor Coaches (See Motor Transportation Company of the South)
Seat, A. C. F. Bucket Type, 1454-D102\*
Seats, Rotating and Reclining Coach, 560°
Seattle; Fireless Engine Terminal; G. N., 203°
Secretary Fritch (See Fritch)
Secretary Lamont (See Lamont)
Secretary Lamont (See Lamont)
Securities Issued in 1929, 65
Selective Travel Draft Attachments, 1454-D36°
Selenium Signals, 1144
Selenium Signals, 1144
Selenium Signals (See also Signaling)
Self-Propelled Portable Compressor, 1454-D103°
Selling More Rides; Greyhound Lines, 725°
Selling Railway Transportation in Great Britain, 695
Semaphore, Passing of the, 420†

Semaphore, Passing of the, 420†
Senator (See Names of Senators)
Separate Statement of Port Terminal Charges
Proposed, 988
Service, Passenger (See Passenger Service)
Settlement of Government Loans, 1446
Sewer Pipe Loading Study, 488
Shafer Self-Alining Roller Bearing, 1548-D49\*
Shaffer-Watson-Stillman Pin Ejector, 1548-D133\*
Shear and Punch, Pels Combination, 1454-D103\*
Shear, Pels Gate, 1454-D53\*
Shear, Pels Type FV-23 Bar and Billet, 1454-D52\*
Sheep Instruction Train: C. N., 264

Sheep Instruction Train; C. N., 264
Sheet Metal, Super Galvannealed, 1548-D160
Shipper and Carrier Co-operation in Transportation, 1071
Shippers Reduce Costs of Transportation, Helping, 585†

Shippers Reduce Costs of Transportation, Helping, 585†

Shippers' Regional Advisory Boards:
Allegheny, Meeting of, 702, 1447
Allegheny; Unloading of Freight Cars, 173
Atlantic States, Meeting of, 255
Central Western, Meeting of, 1259
Estimates of Carloading, 146, 173, 230† (Aid to Railroads), 265, 406, 661, 702, 785, 832, 842, 1090, 1345, 1447, 1448, 1610
Great Lakes, Meeting of, 173, 842
Midwest, Meeting of, 173, 842
Midwest, Meeting of, 785
Ohio Valley, Meeting of, 785
Ohio Valley, Meeting of, 1090
Pacific Northwest, Meeting of, 1447
Southwest, Meeting of, 661, 1447
Southwest, Meeting of, 1345
Trans-Missouri-Kansas, Meeting of, 785, 1610
Shipping Container Specifications, 1454-D136
Shopmaker Safety Fire-Door Closer, 1548-D95\*
Shop Cleanliness Pays a Profit, 1008†
Shop Toois (See Machine Tools)
Shops:

Shop Crafts Seek Five-Day Week,
Shop Toois (See Machine Tools)
Shops:
Canadian National at Montreal, 549°
Car, Why Neglect, 1454-D55†
Freight Car; C. M. St. P. & P., 356°
Maintaining Electrified Equipment, 825
Manufacturing in, Report on, 1454-D95°,
1454-D106†
Modern, 1548-D97†
Passenger Car Repair; Erie, 658
Reading at Wayne Junction, 764
Report of Mech. Div., on, 1548-D163†, 1548-D170°
T. H. & B., at Hamilton, 1358°
Short Cuts in Stores Work, 584†
Short Cuts in Stores Work, 584†
Short Line Claims, Bill for Adjudication of Passed, 838
Short Line Railroad Has Operating Ratio of 57.5, 1334
Should Pension Liability Be Accrued Currently?, 1113†, 1118
Shrine Convention, Canadian Railways House, 405, 1484°
Side Bearing, Standard Adjustable, 1454-D34°
Side Bearings, Roller-Bearing, 1454-D102°
Signal Material, How B. & M. Handles, 1454-D160°
Signaling:
Adapting Centralized Control to Existing

Signal Material, How B. & M. Handles, 1434-D160°

Signaling:
Adapting Centralized Control to Existing Conditions. 10491, 1058°
Automatic Block Signals on B. & O., 1450 Automatic Block Signals Without Track Circuits, 1144
Cab; C. of N. J., 1174°
Cab, Extending, 1170†
Cab Signals: P. R. R., 493, 628-D12
Centralized Control. 141° (P. & I.) 332°
(D. & R. G. W.), 640° (M. P.), 812°
(C. B. & O.), 989 (D. & H.) 1058°
(B. & G.), 1491 (M. P.)
Cleveland Union Terminal Interlocking, 1570°
Color-Light Signal, New, 628-D110°
Construction During 1929, 109°
Development of; A. H. Rudd on, 450
Economics, Report on, 628-D17, 628-D23°
Economics of Centralized Control, 631°
Highway Crossing Protection in 1929, 113
Highway Crossing Protection, Report on, 628-D104°
Instructions, Report on, 628-D52†, 628-D104° structions, Report on, 628-D52†, 628-Interlocking and Either-Direction Signaling; C. & O., 468\* Interlocking, Report on, 628-D99\*

Interlocking with no Mechanical Locking; C. R. I. & P., 373\* Maintenance, Operation and Investment Charges, 1908-1927, 628-D124 Operation by Signal Indication; P. & 1., 141\*

Operation by Signal Indication; P. & 1., 141°
Pre-caution Roadside, 1208°
Progress in 1929, 5†
Report of A. R. E. A., 628-D123°
Semaphore, Passing of the, 420†
Suggestions as to Adequate, 5847
Train Operation, 628-D124
See also Automatic Train Control; Automatic Train:Stop, etc.
Signalman's Carbide Lantern, 1389°
Signs, Illuminated Tail, 646°
Silica Gel Iceless Refrigerator and Heater Car, 921°, 1454-D14°
Single Room Sleeping Cars on P. R. R., 1607
Sinissippi, The; I. C. Train, 988
Sioux Electric Drill, 1537°
66-Ft. Rails Prove Successful on the Lehigh Valley, 1171†, 1173°
Size and Character of Field Organizations for Railway Location and Construction, 628-D202
Sizes of Motor Coaches, Trend in the, 1504†

ley, 11717, 1173\*

Size and Character of Field Organizations tor Railway Location and Construction, 628-D202

Sizes of Motor Coaches, Trend in the, 1504†

Skinner Oil Reclaimer, 306\*
Sleeping Car Service, Through, 1207

Sleeping Car Tax, Mississippi, 983

Slidguide, Alco, 1548-D89\*
Smart, G. E., Address of, 1454-D63\*
Smart, G. E., Address of, 1454-D63\*
Smart, V. Irving, Deputy Minister of Railways, 659\*

Smith Coupling Jack, 1454-D48\*
Smith Pinch Bar, 1454-D101\*
Smith Wheel Pivot, 1454-D33\*
Snow Melter, Oil-Burning, 628-D110\*
Socialism, Business Men and, 1111†
Society of Automotive Engineers:
Anniversary, Silver, 1544

Election of Officers, 315
Summer Meeting, 1544

Soils and Crops Train; C. N. R. and C. P. R., 1153

Soils, Bearing Power of, 628-D172†, 628-D184

Somers, Timber Treating Plant at, 190\*

Soo Line (See Minneapolis, St. Paul & Sault Ste. Marie)

South African Railways: Highway Services, 534, 747

South Australian Railways in 1928-29, 1155

South Australian Railways in 1928-29, 1155

South Carolina R. R. Commission: Pullman Car Order, 1088

South Indian Railway: Gage Conversion, 266

Southeast Shippers' Advisory Board: Meeting of, 661, 1447

Southeastern Claim Conference, Meeting of, 264
Southern New England: Option Granted by C. N. R., 571

Southern New England: Revival of Line, 163

Grevhound Lines, Interest in, 1019\*, 1039,

History. Early, 1458
Labor Clearing House, 838
Motor Coach Stations, 510\* (Photo)
Motor Transport Operations, Results of, 1513
Operating 1,000-Mile Divisions, 823\*
Operating Results, 1189\*
River Crossings, 160
Suisun Bay Bridge Construction, 1458\*
Ticket Printing Machine Installed, 652
Train Finished in Pearl Gray, 1344
Train Time Shortened, 939, 1396
Union Passenger Station Order Upheld, 1341, 1607 1296

Union Passenger Station Order Upheld, 1341, 1607
Southern Pacific Golden Gate Ferries, Ltd., 187\*
Southern Pacific Golden Gate Ferries: Young Veteran, 1391
Southern Railway:
Annual Report, 709\*
Cars, Pullman Lounge, 616
Creight Family, 1605
Crescent Limited, Record of, 1207
Mississippi Valley Barge Line; Application of Opposed, 239
Operating Results, 827\*
Plants Established on Line of, 215
Rail-Motor Coach Tours, 1296
Safety in Shops, 487
Southern Railway (Great Britain):
Budget for 1930, 704
Highway Operations, 721, 1526
New Line Opened, 193
Southern Travel, Ticketing Arrangements for Criticized, 655\$

Southland Greyhound Lines: Notes, 1039 Southwest Shippers' Advisory Board: Meeting of, 1345

Southwest Shippers Advisory Board: Meeting of, 1345

Southwestern Transportation Co.: Notes, 314, 1295, 1296
Rail-Motor Truck Service, 1014\*
St. Louis-Memphis Operations, 1544
Tax Decision, Texas, 1546
Soviet Commission to Study American Railroads, 628-D56\*, 659\*
Soviet Delegates Outline Plans for American Technical Assistance, 1144
Soviet Railroads, R. Budd to Study, 395, 983, 1393
Soviet Union: Turkestan-Siberian Railway, 266, 1155
Space-Interval Protection for Trackmen, 1087

Space-Interval Protection for Trackmen, 1087

Space-Interval Protection 16.

Spain:
Railway Developments, 705, 1209
Railway Operations in 1929, 120

Spark Plugs, A C Heat-Range, 738°

Special Conducted-Tour Trains on C. M. St.
P. & P., 1607

Specifications and Tests for Materials; Recommendations of A. R. A. Committee, 131

Specifications for Draft Gears, 1548-D3†, 1548-D28°

Specifications for Materials, 1548-D116°

Specifications for Materials, 1548-D116°

D28°
Specifications for Materials, 1548-D116°
Specifications for Tank Cars, 1454-D135
Specifications of Oil-Electric Locomotives, 1548-D151

Specifications for Tank Cars, 1454-D135
Specifications of Oil-Electric Locomotives, 1548-D151
Specifications—The Tap Root of N. Y. C. Buying, 961\*
Speed: New Freight Records, 542†
Speed: New Freight Records, 1454-D166\*
Spencer-Moulton Draft Gear, 1454-D166\*
Spencer-Moulton Rubber Cushioning Pads, 1454-D41\*, 1548-D9
Sperry Detector Car, 628-D114†, 628-D152, 628-D156
Sperry, Elmer A., Death of, 1489\*
Sperry, Elmer A., Medal Awarded to, 396
Spokane, Portland & Seattle:
Crank Pins Shrunk by Liquid Air, 982
Great Northern Pacific Unification, 556, 834, 931, 972, 1082
Spokane, Portland & Seattle Transportation Co.:
Notes, 1296
"Sportsman, The"; C. & O., 451, 493, 842, 905\*
Spring, Cardwell Bolster, 1548-D49\*
Spring Cover, Anderson-Aiax Steel, 1033\*
Spring Cover, Anderson-Aiax Steel, 1033\*
Spring Cover, Anderson-Aiax Steel, 1033\*
Spring Spring Spackles, Braking, 733\*
Spring Switches, Protection of, 628-D19\*
Snring Witches, Protection of, 628-D153
Stabilization of Mechanical Forces, 422†
Stabilizing Truck Rates, 1505†, 152!
Stable Employment on the D. & H., 1418
Stand. Switch (See Switch Stand)
Standard Auto-Tite Joints Co.: Flexible Ball
Joints for Pipe Connections, 1548-D75\*
Standard Car Truck Co.: Adjustable Side Bearing, 1454-D34\*
Standard Coupler Co.: Goodwin Leaf Friction
Draft Gear, 1454-D98\*
Standard Gage, Origin of, 1340
Standard Method of Rating Electric Locomotives 1548-D115\*
Itandard Method of Rating Electric Locomo-

Standard Gage, Origin of, 1340

Standard Gage, Origin of, 1340
Standard Method of Rating Electric Locomotives, 1548-D135†, 1548-D154
Standard Steel Car Company: Merger with Pullman, Inc., 151\*, 664
Standard Steel Car Company: Polish Equipment Purchases, Financing of, 266
Standardization; A. R. E. A. Report, 628-D64\*
Standardization of Battery Capacity Rating, 1548-D145
Standardization of Current for Use in Florical Mergers

Standardization of Battery Capacity Rating, 1548-D145
Standardization of Current for Use in Electrically-Operated Machines and Tools, 628-D196
Standardization of Locomotive Parts, Mech. Div.
R\*port on, 1548-D147\*
Standardization of Stocks, Report on, 1454-D158\*
Standardization, Why?, 628-D52†
Standardis and Car Lumber Prices, 1454-D56†, 1454-D88\*
Stanley-Ajax Electric Hammers, 1548-D92\*
Stanley Bench Grinder, 1454-D104\*
Stanley Portable Drills, 1454-D51\*
Stanley Safety Saws, 1548-D52\*
Statement, Separate, of Port Terminal Charges
Proposed, 988
Station Accounts; A. J. Moran on, 1120
Station Agent and Claim Prevention, 162
Station Agent and Claim Prevention, 162
Station Names; Hudson Bay Railwav, 837
Stationery Buying, Report on, 1454-D153\*
Stations, Motor Coach; S. P. Lines, 510\*
(Photo)
Stations, Motor Coach; U. P. System, 1012\*

Stations, Motor Coach; U. P. System, 1012\*
(Photo)
Stations, Passenger:
California R. R. Comm. Order Upheld, 1341,

1607 Canadian National at Montreal Planned, 681\* Cleveland Union. 1549†, 1553\* I. C. Proposed Station at New Orleans, 1607 Italian State Rys. at Milan, 1397 Reading at West Trenton, 1613

T

St. Louis Trainshed Expanded, 954\*
Toledo Union, Fire at, 1439
Toronto Union, 487
Statue of Samuel Rea Unveiled, 880, 989\*
Status of Electrification Programs, 41
Status of Motor Coach Regulations, 1008†
Stead Improved Rail Anchor, 628-D47\*
Steam Generating Unit for Gas-Electric (1548-D54\* Gas-Electric Cars, Steam-Hose Coupler Head, 1454-D102\* Steam-Pipe Connections, Hunt-Spiller, 1548-D94\* Steel Castings, Development of, 867\* Steel Founders' Contribution to the Railroads, 867\* 867\*
Rails, Intermediate Manganese, 595\*
Sand Tanks for Coaling Plants, 628-D44\*
Structural: Orders in 1930, 630†
Structures, A. R. E. A. Report on, 628-D115†, 628-D147\* Steel Structures, A. R. E. A. Report on, 628-D115†, 628-D147\*

Sterling Model DW-20 Truck, 526\*
Sterling Model EWS-40 Truck, 1535\*
Stevens Institute of Technology; A. R. A. Scholarship, 987
Stevens Walden-Worcester Hub Cap Wrench, 737
Stewart Model 31-K Motor Truck, 1289\*
Stewart-Warner Electric Fuel Feed System, 738\*
Stock Book Methods on the Lehigh Valley, 1454-D144\*

Stock; Is Further Sale to Employees Timely?, 322†
Stock Offered to Employees; N. Y. C., 421†, 937
Stock Prices and Dividends, 6†
Stock Prices, High, Danger in, 561
Stockholders, Number of; P. R. R., 162, 395
Stocks: Average Prices 1923-1929, 63\*
Stone (Floridene), A New Building, 628-D49\*
Stopping a Train, The Cost of, 1548-D98†
Storage of Water, 628-D70
Store-Door Collection and Delivery, 1503†
Store-Door Service; G. F. Hichborn on, 745
Store-Door Service; M-K-T Transportation Co., 1447, 1542 Store-Door Service: P. R. R. Plan Rejected,

1545 Store-Door Service; T. & P. Motor Transport Co., 1270\* Storehouse at Reading, 1055\* Storehouses, Fire Prevention in, Report on, 1454-D155\* Storekeeping in Railway Terminals, 1548-D48\*
Stores Accounting Practices, Report on, 1454-D86\*
Stores Department Rules, Report on, 1454-D86\*
Stores Department Safety Work, Report on, 1454-D93\*
Stores Meeting at San Bernardino, Santa Fe, 814\*

Stores Meeting at San Bernardino, Santa Fe, 814\*
Stores Work, Short Cuts in, 584†
Storm King Switch Heater, 628-D207\*
Story of the A. C. L., The, 658
Story of Transportation, Tableaux of, 702\*
Story With a Moral, A True, 1454-D106†
Stresses in Track, Report on, 628-D51†, 628-D85\*

Studying Special Problems, 186†
Submarine Cable Ducts, Novel Method Used in
Laying, 1050\*
Suisun Bay Bridge Construction, 1458\*
Summing Up!, 1548-D163†
Sunbeam Water Cooler, 1548-D96\*
Super Galvannealed Sheet Metal, 1548-D160
Superheater Company: High Pressure Locomotive; C. P. R., 172
Superheater Dampers, Elimination of, 1180
Superintendents' Association (See American Association of Railroad Superintendents)
Superintendents' Cost Data, Report on, 1591
Superior Sheet Steel Co.: Super Galvannealed Sheet Metal, 1548-D160
Supply Forces, Training of, 1454-D163\*

Sheet Metal, 1548-D160

Supply Forces, Training of, 1454-D163\*
Supply Handling in Winter, 3/1†
Supports, Buffalo Bottom-Rod, 1454-D42\*
Supreme Court (See United States)
Sureties, Liability on Trucking Company, 1547
Swift & Co.: "Reciprocal Buying" Investigated, 131, 140, 205, 4191, 438, 479, 541†, 564, 598, 693, 771 778‡, 929, 951†
Swiss Federal Railways: Electrification, 662
Switch Heating Device, Greer, 628-D110\*
Switch Keystone Locomotive Headlight, 1548-D80\*

Switch Lock, New Design of 251\*

D80\*
Switch Lock, New Design of, 351\*
Switch Point Protector, 628-D112\*
Switch Stand, Three-in-One, 628-D48\*
Switchers (See Locomotives)
Switches, Spring, Protection of, 628-D19\*
Switching, Flat and Hump Yard. Formula for Determining Comparative Economies of, 628-D204

Switching Rates Proposed for Chicago District,

Switzerland: Railway Operations in 1929, 125 Swivel-Butt Yoke, Cardwell, 1454-D32\* Symington Lateral Motion Device for Trucks, 1454-D99\* Symington Selective Travel Draft Attachments, 1454-D36\* Syntron Electric Wrench, 628-D43\*

T-Z Railway Equipment Co.:
Blow-Off Cock, 1548-D82\*
Tender-Hose Coupler and Strainer, 1548D53\* Tender-Hose Coupler and Strainer, 1548-D53\*

Tableaux of the Story of Transportation, 702\*
Tableaux of the Story of Transportation, 702\*
Tableaux of the Story of Transportation, 702\*
Talking Pictures on C. & N. W. Trains, 1606
Tank Car: A. T. & S. F., 1454-D111
Tank Car; Commonwealth Cast Steel Underframe, 1548-D100\*
Tank-Car Construction, Aluminum in, 647\*, 836;
Tank Car for Carrying Helium, 1454-D38\*
Tank Cars; General American and General Chemical Company, 1454-D16, 1454-D111
Tank Cars, Report on, 1454-D135\*
Tanks, Steel Sand, for Coaling Plants, 628-D44\*
Tate, Hugh M., Appointed to I. C. C., 441, 573\*
Tax Collector, The Efficient, 1357†
Tax Increase Offsets Savings in Fuel, 1132
Taxation:
Business Conditions and, 1407†

Tax Collector, The Efficient, 1337, Tax Increase Offsets Savings in Fuel, 1132
Taxation:
Business Conditions and, 1407†
Missouri Motor Truck Lines Exempt from, 315
Motor Transport Decision, Texas, 1546
Motor Vehicle in 1929, 1037
Motor Vehicle in 1929, 1037
Motor Vehicles; Bureau of Standards Investigation, 1298
Railroads Bear Brunt of, 1116
Sleeping Cars; Mississippi, 983
Special on Motor Coaches, 1929, 313
Toll of, 583†
Taylor Flexible Freight Car Trucks, 1454-D38\*
Telegraph Facilities Provided in 1929, 116\*
Telegraph Facilities Provided in 1929, 116\*
Telegrapher Code Recommended by Div. VI,1454-D150
Telephone Facilities Provided in 1929, 116\*
Telephone Train Dispatching; Cleveland Union Terminal, 1573
Telletype Communication; Cleveland Union Terminal, 1572
Tendencies That Demand Attention, 901†
Tender-Hose Coupler and Strainer, T-Z, 1548-D53\*
Tender-Tank Valve, Barco, 1548-D75\*
Tender Truck, Buckeye Six-Wheel, 1548-D81\*

D53\*
Tender-Tank Valve, Barco, 1548-D75\*
Tender Truck, Buckeye Six-Wheel, 1548-D81\*
Tenders, Economy Water-Level Indicator for, 1548-D93\*
Tennessee Central: Highway Applications Filed, 1040
Terminal, A Great Passanger, 15404, 1553\*

Terminal A Great Passenger, 1549†, 1553\*
Terminal Facilities, Heavier Business Without
Larger, 1593
Terminal Operation, Cincinnati, 875
Terminal Operation, Little Things Count in

1548-D135† Terminal Railroad Association of St. Louis:
Trainshed Expanded, 954\*
Terminal Storekeeping, Report on, 1548-D48\*
Terminal Warehouse; D. L. & W. at Jersey
City, 701, 816\*
Terminals:

City, 701, 816\*

Terminals:

A. R. E. A. Report on, 628-D136\*
Cleveland Union, 1549†, 1553\*
Express, C. & N. W. Plans, 971\*
Fireless Engine; G. N., 203\*
Fireless Engine; T. H. & B., 1358\*
Fourteen, Closed by Long Engine Runs;
G. N., 643\*
Grand Central; Changes in, 632\*
Loint Operation of, Report on, 1593
Modern 1548-D97†
Motor Coach at New York, 515\*
Motor Coach; Travelers Aid Bureaus, 1296
Passenger Car. 1548-D163†, 1548-D170\*
(See also Yards)

Test Data Needed, More, 630†

Test Data Needed, More, 630†

Test Data Needed, More, 630†
Teste:
Complers, Standard D and Type E, 1548-D31
Enduro on the Firebox Plate, 1548-D134
Firel for Rail Motor Cars, 1548-D123\*
Firel Locomotive: C & E, L. 599\*
Casoline: Railway Express Agency, 1024\*
Geo Track, 137\*
Locomotives, Diesel and Steam, 1135\*
Martin Circulator, 255\*
Materials, Report on, 1548-D116\*
Ponpet Valves; D. & H. Locomotive, 767\*
Rail Motor Cars, 1548-D123\*
Standing, Offer Practical Means for Studying Draft Appliances, 1181
Standing, vs. Dynamometer Car, 1182
Tank Cars, 1454-D136
Unit Loading of Clay Products; P. R. R., 958
Walding Counlets, 1548-D45\*

958
Welding Couplers, 1548-D45\*
Tests to Determine the Stresses in Track Bolts, 628-D153
Texas & New Orleans: Service Order, Mexican Traffic, 215
Texas & Pagific:
Galveston Rate Case, 574, 1153, 1606
Labor Injunction Sustained, 1341
Martin Circulator, Tests of, 255\*
Motor Coaches Improve Service, 1508\*
Motor Transport (See Texas & Pacific Motor Transport Company)
Valuation, Final, 898

Texas & Pacific Motor Transport Company: Winning Traffic Back from Truck Lines, 1270\*

Texas-Mexican: Service Order, Mexican Traffic, 215

Texas: Carriage of Films by Motor Coach Banned, 536

Texas Motor Transport Tax Decision, 1546

Texas Motor Truck Rates, 315

Texas R. R. Comm., Regularly Operated Truck Lines Subject to, 1544

This Machine Age—Where is It Leading Us?, 1075

Thor No. 253Y Rotary Pneumatic Drill, 1454-D50\*

Thor Rod Grinder, 1548-D80\*

Thornton, Sir H.: C. N. R. Refinancing, 451, 1254

Thornton, Sir H., Honored by U. of P. Club, 658

Thornton, Sir H.: New England Consolidations, 840

Threading Machine, Landis, 1454-D49\*

840 Threading Machine, Landis, 1454-D49\* Three-in-One Switch Stand, 628-D48\* Throttle Gear, Power, 1548-D76\*

Throttle Gear, Power, 1548-D76\*
Throttle Valve, Wagner Locomotive, 1548-D90\*
Ticket Printing Machine on S. P., 652
Ticketing Agreements, Reciprocal, 1040
Ticketing Arrangements for Southern Travel
Criticized, 655‡
Tickets, Four-Day Round Trip on P. R. R., 1490
Tickets, Long; P. R. R., 981
Tie Plate Production in 1929, 1446
Tie-Plates, Geo, 139\*
Ties:

Tie Plate Production in 1929, 1446
Tie-Plates, Geo, 139\*
Ties:

A. R. E. A. Report on, 628-D114†, 628-D131\*
Anti-Splitting Devices, 628-D132\*, 1123
Buying Has Changed, 1073
Cut Spikes, Proper Design of, 628-D153\*
Engelmann Spruce, Preservative Treatment of, 387
Future of Crosstie Buying, The, 1063\*
Keystone Steel, 628-D109\*
Life; K. C. S., 1127
Life; Traffic Unit, 628-D134\*
Marketing Conditions, 1122
Necessity for Accurate Information, 321†
New Haven Developed a Local Supply, How the, 1126
Preservative Treatment, Effect of, 628-D121
Prices in 1929, 73
Producers, Convention of, 1063\*, 1073\*, 1122\*
Production, The Railroads' Interest in, 1127
Protection in the Woods; Santa Fe, 1123
Renewals Per Mile, 1928 and Five-Year Average, 372†, 386
Separation by Grades and Groups, 1124
Substitute, 628-D132
Treatment; Great Northern, 190\*
Water Oak, Use of, 1123
What Price Renewals?, 628-D114†
Wood Preservation—The Savior of, 1125
Timber: Is Preservation Worth While?, 372†
Timber Treating Plant, G. N., 190\*
Time-Element Relay with Checking Contact, 628-D47\*
Time Table, M. P. Transportation Co., 537
Timetables; Great Britain, 486
Timken Axle for Heavy-Duty Motor Coach Service, 1290\*
Timken Roller Bearings on P. R. R. Hopper Car, 1225\*, 1548-D68
Timken Roller Bearings on P. R. R. Hopper Car, 1454-D15, 1454-D111\*
Tire Inspection Tool, Manley Air-Operated, 308\*
Tires: Pneumatic Versus Solid; P. Schon on, 515
Toledo: Car Retarders; N. Y. C., 439\*
Toledo Terminal Railway; Maumee River Bridge, 464\*
Toledo Union Station Fire, 1439
Toledos:
Boring Bar. Electric-Driven, 528\*
Brill Multi-Tool, 1454-D51\*
Brill Multi-Tool, 1454-D51\*

Ton-Miles, 1924-1929, 24\*
Tools:
Boring Bar, Electric-Driven, 528\*
Brill Multi-Tool, 1454-D50\*
Buckeye Portable, 1454-D51\*
Elevator, Manley Pneumatic, 1291\*
Grinder, Stanley Bench, 1454-D104\*
Hammers, Stanley-Aiax Electric, 1548-D92\*
Hooker and Roller Sar, 1454-D48\*
Jack, Buda No, 615 Ratchet, 1454-D54\*
Jack, Smith Coupling, 1454-D48\*
Jack, Smith Coupling, 1454-D48\*
Jack, Vickers, 1537\*
Locomotive Rod Grinder, Thor, 1548-D80\*
Pinch Bar, Smith, 1454-D101\*
Power, Problem of, 44
Punch, Messinger Hydraulic Web, 1548-D53\*
Reseating, for Exhaust-Steam Injector, 1548-D134\*
Reseating, for Feedwater Heater, 1548-D60\* eating, for Feedwater Heater. 1548-D96° eting and Punching Fixture, Mayo Ring-ear. 1291° Gear. 1291\* Saws, Stanley Safety. 1548-D52\* Tire Inspection Tool, Manley Air-Operated, 308\*

308\* Valve Grinder, Electric, 528\* Valve Refacer. Van Norman, 1033\* (See also Drill, Wrench. etc.,) (See also Machine Tools)

# GENERAL INDEX-Continued

[Illustrated articles are indicated thus\*; Editorials thus†; Letters to Editor thus\$]

T. H. & B. Builds Fireless Enginehouse, 1358\* T. H. & B. Terminal and Shop Facilities, 1358\* Torpedoes and Fusees; Lecture on, 781 Tourist Information Office at Chicago, Austrian, A. R. E. A. Report on, 628-D113†, 628-D139\* Brine Drippings, Cause and Effect of, 628-D140 Track D140
Built in 1929, 53\*
C. N. R. to Montreal Airport, 1342
Concrete Roadbed; P. M., 237\*, 1309\*
Concrete Roadbeds Be Given Further Trial,
Should, 1457†
Geo Type Experimented with, 137\*
Grandview-Leeds Line; K. C. S., 910\*
Interesting; B. & M., 779
K. C. S. Study of, 1220†, 1231\*
Materials, Reclamation and Handling of,
593\*
Roadbed Construction; P. Chipman Roadbed Construction; P. Chipman on, 1308\*
66-Ft. Rails Prove Successful; L. V., 1171†,
1173\* Stresses, A. R. E. A., Report on, 628-D51†, 628-D85\* 628-D85\*
Stronger, 1220†, 1231\*
Switch Point Protector, 628-D112\*
Transverse Fissures (See Transverse Fissures)
Track Bolts, Test to Determine the Stresses in, 628-D153
Track Cars, Safety Rules for, 1439
Track Diagram, Type-D Illuminated, 628-D169\*
Track Exhibit, 1454-D14\* (Cars), 1454-D111\*
(Cars), 1548-D68\* (Locomotives), 1548-D71\*
(Motor-Driven Locomotives and Rail Motor Cars) Cars)

Track-Laying Records; N. & W., 981

Track Layout; Cleveland Union Terminal, 1563\*

Track Specialties Co.: Switch Point Protector, 628-112\*

Track Tools, A. R. E. A. Plans and Specifications for, 628-D139\*

Track-Weighing, Centennial of, 628-D118\*

Trackmen, Space-Interval Protection for, 1087

Tractive Force of Locomotive Boosters, Formula for Computing, 1548-D152

Tractor and Truck Rules, 1454-D94 Tractor and Truck Rules, 1454-D94
Tractor Equipment, Clark Gas-Powered, 1454-D53\* Tractor and Truck Rules, 1934-D94
Tractor Equipment, Clark Gas-Powered, 1454-D53\*

Tractors, What Railroads Are Doing with, 857\*
Tractors, What Railroads Are Doing with, 857\*
Tractors, What Railroads Are Doing with, 857\*
Traffic:

Coal; Why it is Small, 1221†
Commutation Traffic at Peak, 1550†
Earnings and, 751†, 1406†
Employment, Decline in, 1169†
Employment, Decline in, 1169†
Estimates of Carloadings, 146, 173, 265, 406, 661, 702, 785, 832, 842, 1090, 1345, 1447, 1448, 1610
Express, What About, 1034, 1293‡, 1538‡
Forecasting the Volume of, 1183\*
Freight, Declining Growth of, 1305†
Messages Handled by Printers on P. R. R., 1328\*
Ore; A. T. & S. F., Operations, 959\*
Ore; Pooling Results in Savings, 423\*
Purchases and Traffic, Investigation of:
Swift & Company, 131, 140, 205, 4191†, 438, 479, 541†, 564, 598, 693, 771, 7782, 929, 951†
Purchases and Traffic Investigation of:
Waugh Equipment Company, 926, 1252, 1373, 1431, 1478
"Relieving" the Railways of Low-Rated Traffic, 752†
Service Order; Mexico, 215
Tourist, Summer, Developing, 1292, 1541‡
Weight of Rail, Effect on, 1233
Why Truck Lines Attract, 729
Winning Back from the Truck Lines, 1270\*
Year 1929, 24
Traffic Club of Chicago; Annual Dinner, 406
Traffic Club of Chicago; Officers Elected, 841
Traffic Club of New York; Annual Dinner, 356
Traffic Club of Pittsburgh: Officers Elected, 1490
Traffic Club of St. Louis: Election of Officers, 1490 Traffic Club of St. Louis: Election of Officers, Traffic Managers, Motor Coach, Meeting of, 1545 Traffic Men Should be Trained to Improve Pubic Relations, 876‡, 902† Train Control (See Automatic Train Control)
Train Load, Average, 1924-1929, 33\*
Train No. 13, 1201
Train Resistance on Flexible Rails as Compared with Stiffer Rails, 628-D202
Train Rules, Report on, 1588
"Train Secretaries" on Pennsylvania, 265 "Train Secretaries" on Pennsylvania, 265
Train Telephone Service; C. N. R. 1053\*
Train Time Shortened, 173, 66f, 783, 842, 843, 888, 938, 953†, 988, 1088, 1089, 1259, 1396
Training and Supervision of Air Brake Employees, 1194
Training of Employees; Int. Ry. Congress Report, 1369
Training of Workmen, 628-D193
Training, Vocational, Need for, 1357†

ins:
Agricultural Lecture; C. N., 358
C. B. & Q. Equipment, 590\*
Cost of Stopping, 1548-D98†
Grain Bin Exhibit; M. P., 1396
Lincoln Funeral, 610\*, 878
Low-Cost Farming Special; N. P., 1610
"Minnesota Seed Special"; C. & N. W., 492
Model Exhibition; M. P., 1251\*
Oil-Electric; Reading, 1454-D108\*, 1454-D109\* Oil-Electric; Reading, 1454-D108\*, 1454-D109\*
Poultry-Management; N. Y. C., 939
Radio Equipment on; C. M. St. P. & P., 680

Re-Equipped; C. & E. I.; N. P., 1152, 1371\*
"Reforestation" Special; P. R. R., 890, 1089
Reverse Direction of, 259, 779;
Sheep Instruction: C. N. R., 264
Special Conducted-Tour; C. M. St. P. & P.
1607
"Soils and Crops"; C. N. R. and C. P. R., 1153
Talking Pictures; C. & N. W., 1606
Trains, New:
Advance, The; C. & N. W., 618
Blue Comet; C. of N. I., 769\*
Bullet, The; C. of N. J., 770\*
Chicago, Milwaukee, St. Paul & Pacific, 841
Cleveland-St. Louis Special; C. C. C. & St.
L., 616
Columbine, The; U. P.-C. & N. W. Train, 1465
St. Louis Southwestern, 215
Sportsman, The; C. & O., 451, 493, 842, 905\*
Victory, The C. & N. W., 618, 9537, 966\*
Volunteer, The; N. C. & St. L., 1396 Sportsman, The; C. & O., 451, 493, 842, 905\*
Victory, The C. & N. W., 618, 953†, 966\*
Volunteer, The; N. C. & St. L., 1396
Williamsporter, C. of N. J., 264, 770
Yankee Clipper, The; N. Y. N. H. & H., 174, 661, 854\*, 936 1201
Zioper, The; C. & E. I., 1447
Trainshed of St. Louis Union Station Expanded, 954\*
Transandine Ry. Agreement; Chile-Argentina, 960
Transcontinental Air Transport:
Fare Reduced, 215
Fares Increased, 1490
Passenger Traffic Increases, 842
Passenger Traffic Statistics, 406
Sheaffer, D. M., Heads Executive Committee, 358
Travel to Southwest, 1088 Travel to Southwest, 1088 Transformers, Report on. 628-D16\*
Transmission, Fuller Medium-Duty, 1537\*
Trans-Missouri-Kansas Regional Advisory Board;
Meeting of, 785, 1610
Trans-Persian Railroad; Southern Section Opened,
174 Transportation Club of San Francisco; Officers Elected, 702
Transportation, Competition in, 1550†
Transportation, Contribution of Air Brake to, 347\*
Transportation, Co-ordinated, 1027\*
Transportation Corps Association Reunion, 983
Transportation Division, A. R. A. (See American Railway Association) Transportation, Free, for Regulatory Authorities, 215, 370†
Transportation, Helping Shippers Reduce Cost of, 585† Transportation Library; University of Michigan, Transportation on the Ohio River System, 319†, Transportation Problem, New England; Study of, Transportation Problem, New England; Study of. 161
Transportation, Round-Table Conferences on, 1079
Transportation, Shipper and Carrier Co-operation in, 1071
Transportation, Story of, Shown in Tableaux, 702°
Transverse Fissures; A. R. E. A. Report, 628-D152
Transverse Fissures; Detector Car, 628-D114†, 628-D152, 628-D156
Transverse Fissures; Railroads in New York State, 1430
Transverse Fissures; Railroads in New York State, 1430
Transverse Fissures, Urgent Need to Study, 1406†, 1429
Travel Agencies (See National Association)
Travel by Motor Coach; Economy Stressed in Advertising, 746
Travel: Innovations to Stimulate, 201
Travel to Florida and California Increases, 388
Travel: (See also Passenger Service)
Travelers Aid Bureaus Opened in Motor Coach Terminals, 1296
Traveling Engineers' Association: Program Being Prepared for, 1454-D12
Treated Douglas Fir on S. P., 385
Treated Wood (See Wood, Treated)
Treatment of Car Lumber, 384
Tree Planting Program, C. B. & Q., 1085
Trend of Freight Business, 421†
Trends in Departing Costs, 529, 740‡
Trends in Departing Costs, 529, 740‡
Trends in Passenger Coach Design, 1548-D2†
Trends in Passenger Traffic, 671†
Trestle, Design of a Standard Wooden, 628-D176°
Triple-Range D-C. Volt-Ammeter, 628-D45°
Triumph of the Safety Specialists, The, 1172†, 1176
Trophies, Efficiency; C. of G., 611

Trophies (See also Safety Trophies)
Truck, Buckeye Quick Wheel-Change, 1454-D31\*
Truck, Buckeye Six-Wheel Tender, 1548-D81\*
Truck Cellar, Ardco, 1548-D91\*
Truck, High-Lift, for Icing Passenger Cars, 1454D36\*
Truck Path D36\*
Truck, Rubberized Passenger-Car, 1454-D41\*, 1548-D9
Truck-Box Cellar. Alco One-Piece, 1548-D95\*
Trucks, Electric, Elwell-Parker, 628-D46\*
Trucks, Freight Car, Taylor Flexible, 1454-D38\*
Trucks, Lateral Motion Device for, 1454-D99\*
Tuco Products Corp.: Car-Window Screen, 1454-D43\*
Tunnel. One-Sided, 211 Tunnel, One-Sided, 211 Tunnels: Tunnels:
Appennine (Italy) Dedicated, 662\*
Hagans, L. & N., 430\*
Multiple, 1605
Tunnels and River Crossings, 1486\*
Turkestan-Siberian Railway; 266, 1155
Turkey: Railway Construction, 1396
Turnover Always of Primary Importance, Is, 1454D139\*
Turnover of Materials and Control of Materials Turnover of Materials and Supplies, Average, Twenty-First Engineers Reunion, 6092, 628-D117 U Underframe, Commonwealth Cast Steel for Santa Fe Tank Car, 1548-D100\*
Unfair Competition (See Competition)
Unification (See Consolidations)
Uniform Accounting for Motor Transport, 1269†
Union Fittings, Specifications for, 1548-D117
Union Metal Products Co.: Ajax East-Steel Doors, 1454-D101\*
Union Metal Products Co.: Rotary Coupler Release Rigging, 1454-D33\*
Union Pacific:
Annual Report, 998
Cars, Dining, 241\*
Cars, Open Top Observation, 1396
"Columbine, The," 1465\*
Clubs, Athletics Developed Through, 1325\*
Crane, World's Largest Railway, 910\*
Distillate Fuel Tests, 1548-D124\*
Engine Bed Castings, 654\*, 1548-D70\*
Interstate Transit Lines, Control of, Opposed, 174, 264, 276†, 301, 535
Motor Coach Stations, 1012\* (Photo)
Motor Transport (See Interstate Transit Lines; also Union Pacific Stages)
Operating Results, 967\*
Perishable Freight Route from California, 1153
Safety Plaque Winner, 1143, 1253
Sleeping Car Service, Through, 1207
Train Time Shortened, 842, 939, 1089, 1259
Union Pacific Stages:
Express Traffic, 1539‡
Motor Coach Drivers, How Much Work from, 3104
Notes, 1298
Service Expanded, 1544 Notes, 1298
Service Expanded, 1544
Union Railway Equipment Co.:
Brake, Hand, with Vertical Wheel, 1454-D99\*
Draft Gear Carrier Hinged, 1454-D42\*
Union Switch & Signal Company:
Cab Signaling on C. of N. J., 1174\*
Car Retarders; P. R. R., 1584\*
Centralized Control; P. & I., 141\*
Interlocking, Electro-Pneumatic; Improved, 628Interlocking with no biochemic improved, 628Interlocking with no biochemic Notes, 1298 D166\*
Interlocking with no Mechanical Locking; C. R. I. & P., 373\*
Relay, Indication, 628-D111\*
Relay, Time-Element, 628-D47\*
Union Type T Crosshead, 1548-D82\*
Unit Heater, "Buffalo Wetboy," 345\*
Unit Loading of Clay Products, P. R. R. Tests, 958 United Machine Tool Corp.:
Radial Drilling Machine, 1454-D51\*
Riveting Machines, Electro-Mechanical, 1454-D52\* Shear, S & N Plate, 1454-D54\*
United States Department of Agriculture; Iceless Refrigerator and Heater Car Tested, 921\*
United States Freight Co.: Results in 1929, 785
United States Pipe & Foundry Co.: Ring Joint, New, 628-D109\*
United States Supreme Court:
Damages for Lost Coal, 571
Hoch-Smith Decision Over-Ruled, 1377, 1405†, 1610 Hoch-Smith Decision Over-Ruled, 1377, 14051, 1610
I. C. C. Versus, 321†
United States Trucking Corp., Van Sweringens Acquire Interest in, 316
Universal Draft Gear Attachment Co.: Wheel-Operated Vestibule Brake, 1454-D35\*
Universities, Co-operative Relations with; A. R. E. A. Report, 628-D192\* University of Michigan Creates Transport Library, 429 Library, Velmo, 1454-D35\* Upholstry Fabrics, Velmo, 1454-D35\* Ureco Hand Brake with Vertical Wheel, 1454-D99\* Ureco Hinged Draft-Gear Carrier, 1454-D42\*

Utilization of Equipment; Increased Efficiency in 1929, 5† Utilization (See also Locomotive Utilization)

Valuation: Associated Traffic Clubs' Discussion, 1068
Brimstone Railroad & Canal Co., 607, 846
Central Vermont, 942
Chicago & Eastern Illinois, \$\mathcal{P}\delta 2
Commissioner's View of, A, 1068
Hocking Valley, 667
I. C. C. Alternative Plan, 1237
I. C. C. Appeals to Congress, 321†, 334
I. C. C. Appeals to Congress, 321†, 334
I. C. C. Appeals to Congress, 321†, 334
I. C. C. Appeals to Hartford, 220, 270, 1003, 1216 I. C. C. Appeals to Congress, 321†, 334
I. C. C. Appropriation for, 390, 442, 472, 548
New York, New Haven & Hartford, 220, 270, 1003, 1216
Railroads Ordered to Report, 611
Railway View of, A, 1070
Rate Base Rule, Proposed, 775, 809†, 851†, 936, 1072, 1237, 1439
Records; A. R. E. A. Report, 628-D179
Reports, 624, 1353, 1452
St. Louis & O'Fallon Decision, 5†, 349, (Arguments on), 1159
Texas & Pacific, 898
Western Pacific, 362
Valuation and Consolidation, 212
Value, Economic, of Automatic Interlockings, 853†
Valve, Caboose, Designed to Replace Cutout Cock, 1454-D104
Valve, Crosby Safety, 1548-D92\*
Valve, Crosby Safety, 1548-D92\*
Valve, Globe, for Superheated Steam, 1548-D91\*
Valve Grinder, Electric, 528\*
Valve, Hanlon Drifting, 1548-D92\*
Valve, Hanlon Drifting, 1548-D92\*
Valve, Pyle-National Duplex Distribution, 1548-D77
Valve Regulating for Vapor Circuits, 1454-D32\*
Valve, Regulating for Vapor Circuits, 1454-D32\*
Valve, Wagner Locomotive Throttle, 1548-D90\*
Valve, Worthington Heater Drifting-Control, 1548-D93\*
Valves, Dexter Tools for Reseating, 1548-D96\*
Valves, Lentz Poppet, 688 Valves, Dexter Tools for Reseating, 1548-D96\*
Valves, Lentz Popper, 688
Valves, Poppet; D. & H. 4-6-2 Type Locomotive, 767\*
Valves, Walworth. 1548-D54\*
Van Norman Boring Bar, 628\*
Van Norman Valve Refacer, 1033\*
Van Sweringen Directors, 1216, 1264, 1352, 1353, 1500 Van Sweringens Acquire Interest in New York
Trucking Concern, 316
Vapor Car Heating Company, Inc.: Steam Generating Unit for Gas-Electric Cars, 1548-D54\*
Variable Release Valve for Auxiliary Reservoirs,
1454-D40\*
Velmo Upholstry Fabrics, 1454-D35\*
Ventilating System; Cleveland Union Terminal,
1565 Ventilating System; Clevelland 1565
Vertical Wheel Hand Brake, Ureco, 1454-D99\*
Vestibule Brake, Wheel-Operated, 1454-D35\*
Veteran, Lackawanna Record, 1605
Veterans, Young, 935, 1391, 1486
Vibrators, Electric Improve Concrete. 628-D4
Vibro-Cast (See Electric Tamper & Equipme Concrete. 628-Day & Equipment Vibro-Cast (See Electric Tamper & Equipment Co.)
Vickers Hydraulic Jack, 1033\*
Vickers Tool Box Jack, 1537\*
Victaulic Company: Flexible Pipe Coupling, 870\*
Victory, The;" C. & N. W., 618, 953†, 966\*
Virginia; New Taxation Plan Proposed, 317
Virginian: Regenerative Braking on Electric Locomotives, 1548-D154.
Visitors to A. R. E. A. Convention, 628-D4 (Manchuria), 628-D54 (Mexico), 628-D56\* (Soviet Union), 628-D118
Vocational Training, Railroad Employees' Need for, 1357†
Volt-Ammeter, Weston Triple-Range D-C., 628-D45\*
"Volunteer, The;" N. C. & St. L., 1396 "Volunteer, The;" N. C. & St. L., 1396

Wabash: Annual Report. 797
Clayton Act Hearing; P. R. R. Stock Purchase, 1240, 1332
Eastern Unification Plans, 404, 467, 566, 879, 1108 Eastern Unification Plans, 404, 467, 566, 879, 1108
Insurance, Group Life, 1392
Locomotives, 4-8-2 Type, 821\*
Motor Coach Subsidiary Organized, 1295
Operating Results, 863\*
Poultry Car. 843
W. & L. E., Control of Sought, 1139, 1475
(Application withdrawn)
Wages (See Employee: Wages)
Wagner Locomotive Throttle Valve, 1548-D90\*
Walsh, C. E., Chairman-Elect, Div. VI, 1548-D7\*
Walworth Pipe and Valves, 1548-D54\*
War Department; Appropriation Bill, 173, 212, 213, 1341
Warchouse; D. L. & W. at Jersey City, 701, 816\*
Warchouses, Contract; Allowances to Prohibited, 215, 405
Washer, Lock Spring, 628-D44\*
Waste, Elimination of, 1048†
Waste Materials (See Reclamation)

RAILWAY AGE-Index Watchman Sentenced; Erie, 982
Water Cooler, Sunbeam, 1548-D96\*
Water Conditioner, Locomotive; C. M. St. P. & P., 567\*
Water Heater for Passenger Cars, 1548-D51\*
Water-Level Indicator for Tenders, 1548-D93\*
Water Oak, Use of, 1123
Water, Sanitary Control of; R. E. Coughlan on, 1381
Water Service: A. R. E. A. Report on, 628-D68\* 1381 Water Service; A. R. E. A. Report on, 628-D68\* Water, Storage of, 628-D70 Water Supply Problems are Varied, 1379\* Water Supply: Demand of Centralized Supervision, Water-Tight Bolt, MacLean-Fogg, 1454-D34\*
Water Treatment; A. R. E. A. Report on, 628-D70
Water Treatment: Cost of Impurities, 628-D69
Waterways: erways: Attitude of Railways Should be Made Known, Attitude of Railways Should be Made Known, 370†

Barge-Rail Rate Order Modified, 1344

Barge-Rail Rates, 174, 341, 358

Beardslee Launch & Barge Service, Inc., 1607

Business Men and Socialism, 1111†

Chamber of Commerce Discussion of, 1079

Committee Authorized by Chamber of Commerce of U. S., 355

Development of, 9\*, 16\*

Development, Economic Justification of, 183†

Length of Rail Haul Shortened by, 969

Mississippi River Project, 471, 703, 842, 1047†, 1077, 1139, 1607

Missouri River, Expenditures for, 1207, 1342, 1607

Ohio River System, Transportation on, 319†, 323\*

New York Canals, Transfer to U. S. Recommerced. New York Canals, Transfer to U. S. Recommended, 889, 936, 1047†, 1077, 1138, 1342, 1490, 1607
Reliability, 903†
"Relieving" the Railways of Low-Rated Traffic, 752†
River Versus Rail Service, 811†, 904†
Rivers and Harbors Bill, 572, 658, 987, 1047†, 1077, 1138, 1207, 1342, 1490, 1607
St. Lawrence Project Condemned, 147\*, 229†
Same Old Pork Barrel, The, 1047†
Saving That Has Not Yet Arrived, A, 422†
Survey, Economic, Proposed, 162
War Department Appropriation Bill, 173, 212, 213, 1341
Watson-Stilman Company Pin Ejector, 1548-D133\*
Waugh Equipment Co.: Watson-Stillman Company Pin Ejector, 1548-D133\*
Waugh Equipment Co.:
Buffer, India-Rubber, 1454-D166\*
Draft Gear, Double-End Friction, 1454-D100\*
Draft Gears, India Rubber, 1454-D166\*
"Reciprocal Buying" Investigation, 419†, 438, 926, 1252, 1373, 1431, 1478
Truck, Rubberized Passenger-Car, 1454-D41\*
Waybill, Gigantic; N. Y. C., 1251
Weaver Rim Stripper, 1032\*
Wedge-Type Pipe Clamp, 1454-D47\*
Weed Burning Machine, Test of, 628-D122
Weed Killing; A. R. E. A. Report, 628-D81
Weighing, Centennial of, 628-D118\*
Welded Hopper Car; B. & O., 1454-D14, 1454-D111\*, 1548-D56†
Welding:

Welding:
All-Aluminum Tank Cars, 648\*
Autogenous, Limits and Regulations, 1454D123
Car Construction, A Coming Process in, 1548-

Car Construction, A Coming Process in, 1548
D56†
Couplers, Report on, 1548-D45\*, 1548-D97†
M.K-T Plant at Parsons, 389\*
Weldless Boiler Brace, Alco, 1548-D86\*
Well-Type Flat Car, P. R. R., 1454-D16
West Jersey & Seashore; Stations, Non-Agency, Abandoned, 451
West Trenton Station of Reading Opened, 1613
West Virginia Transportation Co.: Accidents, Steps to Avoid, 1539‡
West Virginia Transportation Co.: Express Traffic, 1293‡
Western Colorado Fruit Shippers Application for Reduced Freight Rates, 1088
Western Electric Co.: Annual Report, 787
Western Pacific:
All-Rail Route to San Fráncisco Sought, 880
Klamath Falls Line Approved, 1595\*, 1606
Perishable Freight Route from California, 1153
Valuation, Final, 362
Western Railway Club:
Aluminum Alloys, Use by Railroads, 377\*
Annual Dinner, 1145
Relations of Locomotive Builders and the Railroads, 829
This Machine Age—Where is It Leading Us?.

roads, 829 his Machine Age—Where is It Leading Us?,

This Machine Age—Where is 1t Leading Us?, 1075
Western Slope Motor Way: Operating Costs, 740‡
Western Society of Engineers: Making Old Bridges Stronger, 756\*
Westinghouse Air Brake Co.:
Air Compressor for Superheated Steam, 1548-D94\*

Brake Equipment for Self-Propelled Rail Cars, 1548-D49\* pirt Collectors with Improved Drainage, 1454-Valve, Auxiliary Reservoir Release, 1454-D40\* Valve, Caboose, Designed to Replace Cutout Cock, 1454-D104\* Valve, Globe, for Superheated Steam, 1548-D91\*

Westinghouse Electric & Manufacturing Co.: Annual Report, 706

Locomotive Exhibits, 1548-D72\*
Locomotives, Oil-Electric, 1427\*
Locomotives, Electric Pusher; G. N., 1324\*
Locomotives, Electric Switching and Transfer; I. C., 1060\*
Rail Motor Car, 1548-D73\*
Weston Triple-Range D-C. Volt-Ammeter, 628-D45\*
Wet Grinding Corrosion, Prevention of, 1454-D50
What About the Holding Companies?, 1171†
What About Express Traffic?, 1034, 1293‡, 1538‡
What Do You Know About Railroads?, 1084, 1142
What is a Good Safety Record?, 1199‡
What is Economic Justification of Waterway Development?, 183†
What Is the Economic Weight of Rail?, 1220†, 1231\*
What L. C. L. Shippers Want, 1269†

what is the Economic Weight of Rail?, 1220†, 1231\*
What L. C. L. Shippers Want, 1269†.
What Price Tie Renewals?, 628-D114†
What Pailroads Are Doing with Tractors, 857\*
Wheel, Demountable, for Motor Cars, 352\*
Wheel-Operated Vestibule Brake, 1454-D35\*
Wheel Pivot, Smith, 1454-D33\*
Wheeling & Lake Erie:
Crews, Small, on Rail Cars, 838, 1606
P. & W. V. Asks Control of, 1475, 1603
Wabash Asks Control of, 1139, 1475 (Application Withdrawn)
Wheels, Flanged, for Ford Cars, 1198\*
Wheels, Recommendation of A. R. A. Committee,

131
Wheels, Report on, 1548-D18\*
Whistles, Locomotive, M-K-T to Test, 879
White Model 65-A Chassis, 527\*
White Motor Vehicle Exhibit at Atlantic City, 1454-D45\*
Whitestone Branch of L. I. Abandoned, 1043, 1085
Whiting Electric Cross-Over Bridges, 1454-D48\*
Who Should Control L. C. L. Consolidators? 1357
Who Should Pay for High Speed Highways? 1584
Wholesaler and Railway Buying, 2572
Why Coal Traffic Is Small, 12217
Why Do Intermediate Manganese Steel Rails Fail? 595\*
Why Engines Wear Out. 1273

Why Do Intermediate Manganese Steel Rails Fail?
595\*
595\*
Why Engines Wear Out, 1273
Why Not Get an Early Start? 230†
Why Not Store Door Delivery? 1285
Why Some Men Are Hard to Sell, 1552†
Why Standardization, 628-D52†
Why Standardization, 628-D52†
Why Truck Lines Attract Traffic, 729
"Williamsporter," C. of N. J. Train, 264
Wilson Transportation Company:
Minnesota Truck Certificate Granted, 1544
Motor Trucks Extend Railway Service, 502† 504\*
Truck Terminal at Sioux Falls, 1039
Window Lifters, Briggs & Stratton, 1548-D50\*
Window-Sash, Edwards Locomotive Cab, 1548-D95
Window Screens, Regal Car, 1453-D43\*
Wine Drop-End Door Lock for Gondola Cars, 1454-D165\*
Wine Equipped Gondola and Hopper Cars, 1454-

Wine Equipped Gondola and Hopper Cars, 1454-D111
Winning Traffic Back from the Truck Lines, 1270\*
Winning Traffic Back from the Truck Lines, 1270\*
Winning Traffic Back from the Truck Lines, 1270\*
Winter in New England; Sports Guide, B. &
M., 173
Winter, Supply Handling in, 371†
Winter Travel to Florida and California Increases,
388

388

Winter Travel to Florida and California Increases, 388
Wisconsin Commission to Enforce Motor Coach Rules, 1296
Women's Aid; P. R. R.; Annual Report, 983
Wood, Partial Seasoning of, 387
Wood Preservation, Report on, 628-D120\*
Wood Preservation—The Savior of the Crosstie, 1125
Wood Preservation—The Savior of the Crosstie, 1125
Wood Preservers' Convention, 383\*
Wood, Treated, Saves \$145,000 Daily, 396
Wooden Bridges; A. R. E. A. Report, 628-D172†, 628-D172†
Work of the Bureau of Safety, 1454-D115\*
Work of the Bureau of Safety, 1454-D115\*
Work Train Operation, Adding Experience to, 463†
Work Train Performance; Reports of, 628-D180\*
World's Largest Railway Crane, 910\*
Worthington Heater Drifting-Control Valve, 1548-D93\*
Worthington Pump & Machinery Corp.: Annual

Worthington Pump & Machinery Corp.: Annual Report, 576
Wrench, Hub Cap, 737\*
Wrench, Syntron Electric, 628-D43\*
Wright, Roy V., Nominated for President, A, S. M. E., 1454-D10
Written or Verbal Reports, 1454-D105†
Wrought Iron Bars, Specifications for, 1548-D118
Wrought-Iron Locomotive Forgings, Byers, 1548-D132
Wrought Iron Plate in Hopper Car Construction,

Wrought Iron Plate in Hopper Car Construction, 1548-D98†

Yager, Louis, Address of, 628-D58\*
Yager, Louis, Cup Presented to, 628-D117\*
Yale & Towne Manufacturing Co.: High-Lift
Truck for Icing Passenger Cars, 1454-D36\*
"Yankee Clipper;" N. Y., N. H. & H. Train, 174,
661, 854\*, 936, 1201
Yard, Joint Interchange, Proposed, 499
Yard Operation, Car Retarders Save in P. R.,
1551†, 1584\*
Yard, Passenger Terminal, Description of a, 1548D163<sup>†</sup>, 1548-D170\*
Yard Work, Radio Telephones for, 628-D205
Yards and Terminals, A. R. E. A. Report on, 628D136\*

# GENERAL INDEX-Continued

[Illustrated articles are indicated thus\*; Editorials thus+; Letters to Editor thus+]

Yards, Classification; Int. Ry. Congress Report, 1368
Yazoo & Mississippi Valley: Motor Truck Case, 1040
Year, 1929, Results in, 17, 23\*
Year's Trend in Equipment Development, 37, 39\*

Yellow Coach, Type W, Increased Power in, 1031\* Yoke, Cardwell Swivel-Butt, 1454-D32\* Young, Brigham, Railroader, 1438\* Young Veterans, 935, 1391, 1486 Your Greatest Ogligation, 1548-D99†

Zambezi Bridge Commission: Bridge Proposed, 407\* "Zipper, The;" C. & E. I. Train, 1447

# **BOOK REVIEWS**

Alternating Current Track Circuits, 982

Centenary History of the Liverpool & Manchester Railway, 980

Field Engineering, 1199 Freight Traffic Redbook, The, 158

Manual of the American Railway Engineering Association, 1339 Medios de Fomentar la Construcción de Ferrocarriles Particulares, 1199

Outline of the State Control of English Railway Rates and Facilities, An, 836

Railroad Consolidation—Its Economics and Controlling Principles, 1199
Railroad Purchasing and the Business Cycle, 393
Rate-Making for Common Carriers, 158

Romance of the Rails, The, 699

Statistische Uebersicht Wichtiger Ergebnisse des Geschaftsjahres, 934

"The 17," 257 Timber Design and Construction, 778 Transport Co-ordination, 257

Work Routing in Production, 1199

# **ELECTIONS AND APPOINTMENTS**

[\* Indicates photograph and sketch \$ Indicates sketch only]

A

Abbott, Corwin, 409
Abrams, John H., 1298
Ackerman, F. J., 628-D108
Acosta, M. Palaciose, 223
Adams, B. T., 1454-D83\*
Adams, Rev. E. Frank, 1142
Adams, Rev. E. Frank, 1142
Adams, Lem, 628-D162
Adams, P. C., 223
Adams, P. C., 223
Adams, W. E., 628-D37
Affleck, B. F., 267, 409\*
Aherin, Harold, C., 318\*
Ahlering, L. J., 1223
Aishton, R. H., 1454-D64°, 1454-D81°
Aitchison, J. F., 1401 Ahern, Harold, C., 318\*
Ahlering, L. J., 1223
Aishton, R. H., 1454-D64°, 1454-D81°
Aitchison, J. F., 1401
Akers, W. W., Jr., 850
Alexander, G. B., 274
Alexander, S. B., 1143
Alfonte, R. B., 1398
Allen, David C., 413
Allen, F. W., 359
Allen, F. W., 359
Allen, Porter, 938
Allen, Porter, 938
Allen, Porter, 938
Allen, W. L., 1261
Almazan, Juan Andrean, 895, 1004
Althouse, Robert James, 878
Alvarado, J. G., 223
Ambach, E. T., 628-D99°
Ames, John P., 354
Anderson, A. S., 628-D27°, 628-D37
Anderson, C. C., 1454-D153°
Anderson, E. D., 844
Anderson, H. W., 181
Anderson, J. E., 4593
Anderson, J. E., 4593
Anderson, J. W., 500
Anderson, W. T., 611
Andreucetti, J. A., 1548-D107°
Andrews, Charles M., 272
Andrews, Charles M., 272
Andrews, S. B., 417, 500
Andrews, W. H., 808
Angell, W. R., 750
Annabel, E. G., 1487
Anthony, W. H., 1403
Archibald, F. B., 1346
Archibald, Henry C., 274, 669
Ardagh, John C., 990
Arehart, Thomas B., 1487
Argo, J. A., 948
Armstrong, J. E., 628-D136°
Armstrong, V. C., 990
Arnold, Gayle W., 1598
Arnold, J. H., 1403
Arnold, J. H., 1403
Arnold, Russell B., 1449
Arthur, O. F., 1614
Arundel, Thomas W., 1108
Ashley, Harold S., 274
Askew, W. H., 180
Ashley, Harold S., 274
Askew, W. H., 180
Astor. Vincent, 449
Atkinson, A. K., 1264
Austin, Dwight E., 1040
Austin, F. S., 1454-D78°, 1549-D7
Austin, John Clyde, 850, 8983
Autry, Gene, 1142 Aydelott, J. H., 180 Ayers, A. R., 1454-D60, 1454-D62\*, 1548-D22\*, 1548-D165\* Ayers, J. G., 570 Ayler, S. F., 1453 Ayres, Leonard P., 1216

B

Baaches, Frank, 1346
Babbitt, William Crane, 175
Bacigalupi, Louis G., 1201
Backes, Edward W., 669
Badger, F. W., 1580
Badgley, D. L., 1167
Baer, Frank H., 843
Bagby, Earl A., 749, 1041, 1303°
Bailey, W. J., 750
Baille, M. E., 950
Baille, M. E., 950
Baille, G. H., 223
Baily, H. E., 1613
Baird, F. H., 1005
Baker, George F., 1605
Baker, George F., 1605
Baker, John, 1205
Baker, V. W., 265
Baker, V. W., 265
Baker, Wallace, 1391
Balbridge, C. W., 628-D81°
Balcom, M. A., 570
Baldwin, L. W., 628-D162°, 628-D174°, 1352
Ball, A. J., 938
Ball, P. De C., 948
Balliet, H. S., 628-D9°, 628-D108
Balliet, William E., 1449
Ballord, W. R., 193
Banghart, Harry S., 217, 268°
Bangs, Clayton Lee, 540;
Barber, H. D., 271
Barclay, A. J., 639
Barclay, F. B., 459
Bardwell, C. M., 628-D43, 408
Barres, M. E., 412°
Barnes, M. E., 1614
Barrett, Jack, 1486
Barry, W. J., 358
Barton, D. E., 417
Barton, T. F., 1110, 1167, 1266°
Bassett, J. S., 1614
Bassett, William C., 413
Bast, P. E., 179°
Basye, E. M., 910
Batchellor, F. D., 950
Bates, W. O., Jr., 1261
Battley, E. R., 950, 1354
Baumgardner, J. A., 264
Bayer, E. J., 181
Baylies, H. L., 990
Beale, F. D., 1167
Beeck, B. W., 158
Beck, W. C., 849

Beck, W. D., 841
Beck, W. D., 841
Beck, William H.. 175
Beckner, J. M., 981
Beeler, J. D., 627
Begien, R. N., 1217
Begien, R. N., 1217
Begien, R. N., 17., 1167
Beidelman, P. B., 415\*
Beilsmith, R. J., 458
Beil, Benjamin, Ir., 1203
Bell, G. A. W., Jr., 706
Bell, G. T., 586\*
Beltz, J. D., 615
Belzone, Germaine, 486
Benedict, C. E., 1487
Bender, D. H., 458
Bender, Gorge W. 217
Bendix, Vincent, 750, 1303
Bennett, J. L., 670
Bennett, J. L., 670
Bennett, J. L., 670
Bennett, W. H., 1454-D60
Bennett, W. R., 1265, 1354\*
Benning, W. F., 1167
Bentley, H. T., 1179\*
Benton, T. G., 898
Berg, S. P., 628, 1454
Berglund, Carl V., 1005
Bering, Morey, 265
Bernet, J. J., \*11, 1187
Berta, A. J., 899
Best. Otto, 1224
Beutke, P. E., 1046
Beutler, Frank E., 582
Bevan, T. D., 670
Beven, J. L., 808
Beymer, M. C., 628-D27\*
Bichlmeir, G. W., 1454-D78\*, 1548-D7 Bevan, T. D., 670
Beven, J. L., 808
Beymer, M. C., 628-D27\*
Bichlmeir, G. W., 1454-D78\*, 1548-D7
Bickers, T. E., 182
Bickley, W. P., 950
Bierman, William, 151, 664
Bierne, A. H., 1110
Biette, F. C., 182
Bigelow, George Storrs, 1454-D18
Bigelow, H. L., 1580
Billau, L. S., 1548-D109\*
Bird, C. R., 1401
Bird, R. C., 990
Birdsell, A., 628
Bishop, F. J., 467
Bishop, R. A., 181
Bissonnet, G. E., 1114
Bitgood, R. A., 71, 179\*
Blackburn, Charlie, 1084
Blackburn, T. R., 500
Blackman, H. W., 360
Blackman, H. W., 360
Blackmer, G. F., 1346
Blaess, A. F., 628-D162
Blair, Joseph P., 132\*
Blair, W. H., 899
Blake, R. P., 900
Blakemore, J. B., 1611
Blatterman, L. A., 1295
Blum, Bernard, 628-D117, 1081
Bock, E. L., 1217
Bodemer, C. J., 1454-D62\*
Bogart, Gilbert P., 1454-D18
Boland, W. E., 628-D108
Bollenbacher, E. H., 1210
Bolton, W. E., 1188
Bon, I. C., 1548-D45\*
Bonneville, William H., 215
Booker, George W., 1453
Booth, J. K., 1454-D60
Borden, R. M., 413

Borland, W. P., 1454-D115°
Boschke, George W., 639
Bostwick, L. C., 1614
Bower, A. W., 1354
Bower, William C., 271, 364°
Bower, G. A., 849
Bowman, Daniel M., 415
Boyce, George R., 1312
Boyd, L. B., 670
Boyd, W. S., 1500
Bradford, C. T., 841
Bradley, Aliva, 1216
Bragg, R. R., 413
Brand, J. N., 458
Brantly, J. B., 457, 807‡
Bray, Roscoe C., 702
Brecht, C. W., 180, 365°
Bremser, C. V., 265
Brenan, Bayard R., 499, 627°
Brendlen, Herbert, 1611
Brenden, L. W., 1611
Brennan, E. M., 1363
Brennan, J. T., 409
Brent, F. Pierce, 454‡
Briggs, G. A., 987
Brigham, Erwin R., 218‡
Brink, H. E., 628-D117, 1081
Brinkworth, J. J., 223
Brister, Charles J., 271, 363°
Brittenham, G. R., 1347
Brock, G. P., 365
Brockwell, Lester A., 272
Brodhead, C. K., 414, 499‡, 1404
Brodie, H. W., 899, 949°
Broe, A. L., 1156°
Broner, Edmond D., 412
Brooke, George Doswell, 628-D5°, 628-D162°, 1217, 1353°
Brooks, Barlow W., 1091
Brooks, C. E., 1548-D123°
Brosks, Barlow W., 1091
Brooks, C. E., 1548-D123°
Brower, R. C., 990
Brown, C. A., 990
Brown, C. A., 990
Brown, C. A., 990
Brown, C. A., 990
Brown, C. H., 849
Brown, Donaldson, 1217
Brown, Ed., 703
Brown, Frederick W., 849‡
Brown, Frederick W., 849‡
Brown, Frederick W., 849‡
Brown, George McLaren, 938
Brown, George F., 486 Brown, Ed., 703
Brown, E. W., 625
Brown, Frederick W. 849‡
Rrown. Sir George McLaren, 938
Brown, George P., 486
Brown, H. D., 180
Brown, H. W., 900
Brown, I. M., 1203
Brown, J. K., 1403
Brown, LaRue, 1043
Brown, M. F., 900
Brown, O. J., 1177
Brown, Ralph, 1454-D6\*
Brown, R. A., 1404
Brown, R. F., 899
Brown, William, 1265
Brown, W. Y., 936
Brunner, H. E., 218
Bryan, J. A., 900
Bryan, J. A., 900
Bryan, Thomas Robertson, 225\*
Bryce, Stephen D., Jr., 1043
Buchenery, H. P., 950
Buck, N. H., 668
Buckingham, G. F., 1502

Buckingham, J. E., 408, 1205
Buckley, D. J., 1166
Buckminster, E. E., 1453
Budd, Ralph, 15\*
Buettner, W. J., 750, 1303
Buland, George L., 498
Bunting, G. J., 1115\*
Burch, H. F., 938
Burch, W. D., 1614
Burdett, F. E., 1046
Burke, J. A., 1224\*
Burkholder, J. C., 1053\*
Burnham, Daniel H., 703
Burnham, P. H., 415\*
Burnap, Robert L., 179\*, 272
Burnett, F. H., 440
Burnett, F. H., 490
Burnett, W. R., 628-D173
Burns, James M., 1394
Burns, P. H., 750
Burroughs, C. R., 500
Burroughs, George, 1052
Burt, C. M., 586\*
Burt, C. S., 670
Burt, J. W., 181
Burton, T. L., 1224\*
Burton, W. J., 628-D131\*
Busenbark, W. R., 181
Bush, E. E., 278
Bush, R. G., 1167
Busse, E. G., 1224
Butler, Major Charles F., 628-D117
Butler, Major Charles F., 628-D117
Butler, Major Charles F., 628-D117
Butler, W. H., 226
Butts, George W., 983
Byron, A. W., 670‡

# C

Cabrera, M., 1500
Caesar, O. S., 745
Cairns, C. A., 586\*
Caldwell, W. I., 413
Caley, G. H., 628-D108
Calkins, A. E., 1454-D130\*
Callahan, F. R., 223
Callahan, P. J., 1548-D108\*
Callender, G. T., 1454
Callens, N. L., 458
Calles, General Plutarco Elias, 982
Callison, W. A., 1548-D170\*
Calloway, W. B., 586\*
Cameron, Douglas, 495
Cameron, E. W., 849
Cameron, E. W., 849
Cameron, Lewis O., 495
Camp, W. M., 807
Campbell, A. J., 265
Campbell, A. J., 265
Campbell, G. M., 1454-D75\*, 1507
Campbell, Commissioner J. B., 131, 162
Campbell, R. W. 841 Campbell, A. J., 265
Campbell, E. T., 1218
Campbell, G. M., 1454-D75\*, 1507
Campbell, Commissioner J. B., 131, 162
Campbell, R. W. 841
Camphausen, William J., 1158
Canavan, J. N., 457
Cantley, W. I., 1454-D67, 1548-D147\*
Cantrell, F. W., 223
Canty, T. A., 1346
Capron, J. D., 267
Carleton, J. L., 712
Carlson, H. J., 458
Carlton, Frederick L., 1486
Carr, George R., 938, 1454-D61\*
Carr, Richard B., 495
Carrington, Joe C., 1545
Carroll, J. E., 1265
Carroll, Phillip 1453
Carry, Champ, 1486
Carson, E. B., 224
Carson, H. C., 899
Carson, H. C., 899
Carson, H. E., 627
Carter, George E., 900
Carter, T. E., 500
Carver, D. H., 844
Casey, R. E., 498
Castle, A. C., 408
Castle, Ward C., 1400
Castro, L. Perez, 1500
Cates, L. S., 1217
Chalmers, O. D., 1085, 1439
Chamberlain, R. W., 360
Chambers, W. R., 1548-D106
Champion, T. P., 1312
Chancellor, C. D., 850
Chandler, Colie, 657
Chandler, Paul, 657
Chandler, Pau

Clark, J. D., 1046
Clark, J. D., 1177, 1179°
Clarke, A. D., 1177, 1179°
Clarke, A. D., 1177, 1179°
Clarke, E. C., 1605
Clarke, E. C., 1605
Clarke, Harley L., 457
Claus, W., 899, 950
Cleary, A. J., 1167
Cleary, James, 1152
Clemens, Edward, 1152
Clemens, Edward, 1152
Clemens, Edward, 1152
Clemens, Edward, 1152
Clemens, J. W., 356, 928
Clements, J. G., 850
Clements, J. G., 850
Clendennin, J. P., 487
Clifford, E. A., 331, 1454-D78°, 1548-D7
Clifford, T. F., 940
Climo, I. C., 1167
Cline, R. H., 1615
Clore, R. H., 175
Clothier, K. D., 940
Clymer, George H., 575
Cobleigh, H. R., 1043
Cochrane, J. A., 548
Cochrun, R. E., 1110
Coffin, C. W. Floyd, 1454-D4°, 1548-D63
Coffin, Samuel P., 669
Cogan, J. J., 668
Coghlan, John H., 1210
Coil, Corbett W., 1403
Cole, Whitefoord R., 10°, 1068°
Coleman, D. C., 938
Coleman, G. L., 180
Coleman, G. L., 180
Coleman, H. T., 223
Coleman, G. L., 180
Coleman, H. T., 223
Coleman, H. T., 224
Combs, Harry, 1347
Collins, John F., 669
Collins, J

# D

Dailey, G. E., 669
Dallas, Everett H., 807
Dalton, H. G., 1216
Daly, M. A., 900
Damon, M. E., 990
Dampman, C. P., 1179\*
Danies, J. E., 417
Daniels, A. W., 891
Daniels, A. W., 891
Daniels, John, 367
Daniels, John, 367
Daniels, J. W., 181
Daniels, J. W., 181
Daniels, J. W., 181
Daniels, J. W., 183
Darden, C. M., 1110
Darrah, Clayton E., 354
Daveler, Erle V., 1500
Davenport, J. E., 414, 1177, 1179\*
Davies, T. B., 1210
Davidson, W. M., 1548-D7
Davies, T. B., 1210
Davis, Arthur, 1265
Davis, Clark, 899
Davis, C. W., 218
Davis, David, Jr., 712
Davis, G. B., 457, 1218
Davis, James T., 849\*
Davis, James T., 849\*
Davis, James T., 849\*
Davis, W. R., 948
Davis, L. S., 899, 900
DeBoard, E. H., 899
DeButts, H. A., 850
Deery, James, 1454-D58
De Grief, F. J., 396
De Hart, Henry T., 318
DeHoll, Henry R., 891
Deighton, Thomas, 500
Deimling, J. F., 1414
Deitiker, R. H., 899
DeJarnette, Dr. Joseph S., 610
Demarest, Samuel S., 891;
Demarest, T. W., 1454-D121\*
DeNeefe, R. E., 271
Denney, C. E., 13°, 1454-D80\*
Dennis, Col. John S., 132\*
Denton, Robert B., 1502
Deppe, J. A., 356°
DeeRamus, L. F., 850
Deermeyer, George H., 948
DesBrisay, N. R., 899, 949\*
Devenish, W. R., 712
Dev, Ben C., 132\*
Dick, G. F., 314
Dick, H. B., 1006‡
Dicknson, Tom, 1548-D9
Dickinson, W. J., 1152
Diers, George H., 575
Diers, George H., 5 Ditmore, G. W., 1454-D67\*, 1548-D127\*

Dix, L. E., 1177, 1179\*
Dixon, Wesley M., 264
Dobbs, Walter E., 417\*
Dobson, F. L., 489
Dodge, G. F., 668
Dodge, Walter B., 409
Dods, J. C., 1548-D48\*
Dodson, F. E., 1454-D6\*, 1548-D63
Doering, Walter C., 454\*
Doggett, A. L., 1490
Dolch, B. E., 990
Donachy, D. M., 223
Donagan, O. A., 628-D4
Donahue, B. A., 176
Donahue, Morris, 459
Donally, W. J., 849
Donham, Henry, 180
Donnelly, Charles, 312, 628-D157\*
Donny, W. Hugh, 1614
Donoghue, M. J., 1303\*
Doorley, J. M., 1052
Doss, Roscoe James, 459, 668‡
Dougall, James, 500 Doss, L. L., 439
Doss, Roscoe James, 459, 668‡
Dougall, James, 500
Dougherty, Richard E., 271, 363\*
Doughty, M. H., 820
Douglas, John, 413\*
Down, Sidney G., 750, 1303, 1454Downs, L. A., 9\*
Doyle, Richard, 1453
Doyle, Richard, 1453
Doyle, Vincent H., 225, 274\*
Dozier, E. W., 458
Drago, Charles, 354
Drake, James F., 151\*
Draper, C. A., 132
Dressel, F. W., 618
Driscoll, T. H., 359
Droege, John A., 533
Dryden, G. H., 628-D13\*
Dryers, E. L., 935

Dudkins, Leonard, 1216
Dudley, I. W., 808
Dudley, W. F., 458‡, 1119
Duff, W. A., 555
Duffy, Gerald E., 222
Duggan, L. P., 217‡
Duke, W. M., 1167
Duncan, A. W., 458
Duncan, Ian, 359
Duncan, Ian, 359
Duncan, W. M., 457
Dunham, H. L., 1318
Dunham, W. E., 1548-D144\*
Dunn, Samuel O., 123
Dunn, W. R., 417
Dunphy, K. A., 274
Durham, E. N., 1352
Durham, H. E., 910
Durston, Horace H., 1500
Duvall, L. F., 1454-D158\*
Dye, James H., 575
Dyer, Prof. Gus, 628-D157\*
Dyer, J. H., 1081
Dyson, C. H., 1177, 1179\*

Earhart, Amelia, 1396
East, Russell G., 1598
Eastman, Walter, 272\*
Eaton, R. S., 224
Eble, W. R., 365, 1265
Ecker, George B., 1453
Eckert, W. F., 413
Edmonds, Roy M., 1122
Edmonds, Roy M., 1122
Edmonds, R. W., 458
Edwards, R. W., 458
Edwards, T. O., 1115\*
Egan, A. C., 1401\*
Eichorn, George, 354
Eichorn, James, 354
Eichorn, James, Jr., 354
Eichorn, James, Jr., 354
Eichorn, James, Jr., 354
Eichorn, James, Jr., 365
Elliott, N. J., 1068
Elliott, N. J., 1068
Elliott, R. G., 891
Elliott, R. G., 891
Elliott, R. B., 628-D108
Elworson, James C., 1302
Elwood, H. J., 1611
Emmons, F. A., 1261
Empie, Homer A., 368\*
England, Robert, 670
Ennis, W. L., 365
Erickson, Emil, 500
Ernstrom, G. L., 900
Etters, P. M., 617
Eubank, Daniel L., 1454-D4\*, 1548-D61\*
Evans, C. I., 1177, 1179\*
Evans, C. R., 990
Evans, David J., 990
Evans, David J., 990
Evans, W. M., 500
Ever, Dr. Duncan, 418, 657
Ever, Dr. Duncan, 418, 657
Ever, Dr. Duncan, 418, 657
Everestil, E. E., 899
Ewing, Charles H., 938
Exley, L. P. O., 365

Fabian, Harold P., 848
Fahy, J. E., 615
Fair, J. M., 712
Fairbairn, R. L., 750\*
Fairchild, H. C., 223
Fairhead, George R., 416\*
Fairless, Benjamin F., 990
Fairweather, S. W., 950, 1006\*
Falvey, W. L., 1580
Fanning, George S., 866
Farrell, W. J., 1454-D78\*
Farrington, J. D., 180, 4993
Fassett, T. A. K., 224
Fatherson, T. W., 628
Fay, Frank L., 409
Feagin, W. S., 436
Featherstone, R. J., 359
Fee, S. L., 180
Feickert, R. R., 1152
Feigel, N., 712
Fellows, George A., 1084
Felter, H. E., 808, 1266
Fenley, W. H., 628-D5, 628-D27\*, 628-D373
Fennema, Carl F., 1391
Fenton, Mark, 162
Fergus, George T., 1453
Ferguson, Albert E., 617
Ferguson, Col. Harley B., 358
Ferguson, N. J., 1109
Ferry, James H., 750
Field, Alex M., 1152
Fields, W., 950
Fineld, Thomas H., 1486
Filkins, A. J., 628-D37
Finch, E. M., 459
Findley, Alvin Irwin, 991\*
Fink, C. A., 626

# ELECTIONS AND APPOINTMENTS-Continued

[\* Indicates photograph and sketch \$ Indicates sketch only]

Finn, J. D., 217. 268\*
Fischer, H. A., 668
Fischer, Karl W., 1265, 1354‡
Fisher, Frank, 1205
Fisher, J. B., 711
Fisher, J. B., 711
Fisher, W. H., 1218
Fitzgerald, J. T., 1166
Fitzpatrick, P. D., 500, 628\*, 1109
Fitzsimmons, E. S., 1312
Flack, J. E., 611
Flanagan, P. R., 181
Flanigan, M. J., 271, 356
Flannery, J. W., 1265, 1354\*
Fletcher, L. E., 1110
Films, R. H., 627\*, 712
Flosi, Fred C., 408
Flowers, J. N., 271
Flynn, H. A., 1224
Flynn, H. A., 1224
Flynn, H. J., 403
Flynn, W. H., 1548-D174\*
Foale, H. J., 628-D108
Foogeriy, Kearn E., 1312
Fogg, J. W., 628-D27\*, 1152, 1205, 1224, 1548-D63
Follett, W. F., 628-D16\*, 628-D108
Foote, F. D., 409
Ford, R. H., 628-D192\*
Ford, Willis H., 1142
Föreman, R. J., 582, 669\*
Forester, E. C., 948
Forrester, C., 1587
Forster, H. J., 1367
Foster, C. J., 626
Foster, D. H., 417
Foster, E. E., 1454
Foster, H. D., 1454-D95\*
Foster, M. H., 1613
Fowler, A. D., 899
Fowler, E. W., 626
Fowler, Harry, 1084
Fox, E. N., 628-D19\*
Foy, Norman, 991
Fox, E. N., 628-D19\*
Foy, Norman, 991
Frank, Everett G., 1352
Frantz, Joseph H., 218
Frauenthal, B. W., 936
Freederici, C. J., 181
Freeman, F. B., 634, 1052
Freeman, H. J., 1468
Freeman, F. B., 634, 1052
Freeman, F. B., 634, 1052
Freeman, F. B., 634, 1052
Freeman, H. J., 1468
Freeman, F. B., 634, 1052
Freeman, H. J., 1468
Freeman, E. W., 626
Fry, L. Mord
Friend, G. E., 1401\*
Friend, G. E., 1401\*
Friend, G. E., 1401\*
Friend, H. L., 950
Friert, Harry W., 181
Fries, L. E., 175
Fritch, F. H., 628-D1, 628-D52, 628-D62\*
628-D62\*
628-D62\*
628-D116, 628-D162
Fritch, Howard F., 1453\*, 1502
Friend, H. L., 950
Friend, H. E., 1205
Fuller, V. D., 1438
Fuller, J. D., 1454-D60
Fuller, E. I., 1205
Fuller, M. R., 181

# G

Gabriel, R. W., 950
Gade, Harold H., 454
Gaete, M. L., 366, 458\*
Gage, R. G., 938, 1548-D107\*
Galbreath, H. P., 1453
Galbreath, W. V., 627
Galbroner, W. J., 668
Galligan, J. A., 1224
Garber, O. A., 1454-D62\*
Garcia, J. C., 223
Gardiner, Albert A., 224\*
Gardiner, J. E., 1224
Gardiner, J. E., 1224
Gardiner, J. E., 1246
Gardiner, J. E., 1264
Gardiner, J. E., 1274
Gardiner, J. E., 1274
Gardiner, K. C., 409
Garner, R. D., 1109
Garner, R. D., 1109
Garner, R. D., 1109
Gass, Howard R., 409, 575‡
Gaston, E. T., 779
Gaston, E. T., 779
Gaston, George A., 411, 1262
Gault, P. M., 628-D4, 628-D108\*, 628-D117, 1081
Gayetty, C. H., 1454-D4\*
Gearwear, D. V., 523
Geer, W. L., 712
Gerber, L. A., 844

German, Harold R. 132‡
Geyer, C. J., 628-D54
Gibbons, S. L., 1210
Gibson, J. S., 271
Gibbert, Harry T., 990
Giles, G. J., 436
Gilg, H. E., 1501
Gill, J. O., 181
Gillespie, S. E., 664
Gilliette, William, 570
Gillick, J. T., 356\*
Gillick, J. T., 498
Gillies, Frederick M., 891
Gillis, H. W., 1403
Gilmour, A. G., 413\*
Ginnelly, T., 498
Ginter, Howard, 223\*
Girder, Tom, 990, 1091
Glacy, George F., 625\*
Glaza, Joseph, 898
Gleaser, E. J., 808
Glenn, Ernest D., 1167, 1404\*
Glenn, J. C., 899
Glover, Frank Lyon, 457, 807‡
Glover, G. R., 224
Glynn, Frederick K., 315
Goad, George N., 849, 1404‡
Gochenour, W. D., 900
Godwin, E. E., 668
Gonzalez, L., 628-D54
Goodloe, G. B., 625
Goodman, John S., 413, 499\*, 500
Goodwin, G. S., 1454-D135\*
Gordon, R. L., 151, 664
Gorman, J. A., 899
Gorman, J. A., 899
Gorman, J. A., 899
Gorman, J. A., 899
Gorman, J. E., 12\*
Gosselin, Edward N., 1156
Goto, R., 628-D4
Gowel, James E., 1109
Grace, F. W., 1613
Gracey, T. J., 1401
Graebing, Clayton W., 1109
Graham, C. E., 940
Grammer, P. L., 1548-D36\*
Grant, F. T., 1502
Grant, James, 161
Grant, Sydney B., 175
Graver, H. S., 1156
Graver, W. F., 1156
Graver, W. F., 1156
Graver, R. A., 1990
Gregg, George R., 366
Green, Dr. Charles C., 182
Green, Frederick V., 1762, 786
Green, Dr. Charles C., 182
Green, Frederick V., 1762, 786
Green, Frederick V., 1763, 786
Green, Frederick V., 1764, 786
Green,

### H

H
Haas, Samuel, 1263
Habersham, R. P., 274
Hagan, J. S., 670
Hagerty, H. F., 990
Hangerson, Fred H., 359
Haines, Jasper N., 1403, 15013
Hait, Fred N., 899
Hale, Gerald, 990
Hale, O. R., 409
Hall, C. B., 1454-D78\*
Hall, E. B., 1454-D62\*
Hall, E. B., 1454-D78\*
Hall, W. B., 1454-D78\*
Halliday, J. O., 1187
Halsey, W. W., 1091
Halstead, H. F., 808
Halverton, H. H., 1353

Hamerly, Frank B., 706
Hamilton, Bently M., 1265
Hamilton, John B., 1501
Hamler, W. A., 223
Hammond, H. A., 990
Hammond, F. A., 180
Hammond, Robert S., 1449\*
Hampson, A. A., 182
Hampton, W. D., 990
Hande, J. H., 628-D179\*
Handley, R. A., 459
Handy, Clive C., 1004\*
Haney, C. G., 749
Haney, F. R., 1318
Hankins, F. W., 938
Hansard, Fritz A., 849, 1005\*
Hansen, F. L., 899
Hanson, R. J., 712
Hardnan, T. A., 627
Hardgrave, R. L., 1453
Hardin, F. H., 1454-D62\*
Hardin, F. H., 1454-D62\*
Hardin, F. H., 1454-D62\*
Hardin, F. H., 1454-D62\*
Harris, C. W., 628-D162, 1041, 1454-D75
Hare, Edward, 1403
Hare, J. V., 938
Harman, Frank B., 417
Harper, F. E., 409
Harper, T. George, 356
Harris, B., 712
Harris, R. G., 990
Harrison, Ward, 1156
Harrison, Ward, 1156
Harrison, W. S., 1402\*
Hartley, J. G., 712
Hartley, W. D., 808, 1168\*
Hartwell, Edward S., 272
Hartz, W. Homer, 218\*
Harvey, Fred, 533
Harward, Frederick T., 413\*
Hasbrook, E. F., 1548-D7
Hasse, Frank C., 1312
Hassett, M. W., 1454-D60
Hastings, Frederick T., 413\*
Hasbrook, E. F., 1548-D7
Hasset, Frank C., 1312
Hassett, M. W., 1454-D60
Haveneyer, H. O., Jr., 449
Haverly, E. S., 1046
Hawk, A. T., 1263
Hawkins, George W., 176
Hawkins, George W., 176
Hawkins, George W., 176
Hawkins, George W., 176
Hawkey, A. L., 1119
Hayes, M. L., 1187
Hayes, R. S., 540
Helm, A. F., 1265
Helmhright, H. H., 182
Hazen, H. T., 582
Healy, E. A., 899
Healy, Thomas P., 215
Hearth, William R., 450
Heath, B. A., 670
Helm, A. F., 1265
Helmbright, H. H., 1156\*
Helminght, R. M., 13033
Heleen, H.go, 1006
Helm, A. F., 1265
Helmbright, H. H., 184
Helwig, P. W., 225
Henderson, W. H., 458
Henderson, W. H., 458
Henderson, W. H., 458
Henderson, W. H., 458
Henderson, W. H., 459
Helming, Fred P., 540
Helm, R. F., 1266
Helm, R. G., 1454-D60
Helm, A. F., 1265
Helmbright, H. H., 119
Hilgen, J. G., 1219
Hilkes, F. M., 271
Hill, J. B., 610
Hills, A. A., 388
Henderson, W. H., 458
Henderson, W. H., 458
Henderson, W. H., 458
Henderson, W. H., 458
Henderson, W. H., 1454-D60
Helm, A. J., 365
Helmin, J., 1454-D60
Helm, A. J.,

Hirschthal, M., 820
Hitch, C. B., 500, 1167
Hobbie, A. D., 617
Hobbie, Roscoe, 1122
Hobbs, William J., 581, 625\*, 1119
Hodge, Edwin, Jr., 409
Hodge, J. H., 750, 1046
Hodgson, F. D., 1217
Hoffman, C. M., 1205
Hoffman, E. J., 274, 712
Hoffman, L. A., 224
Hoffman, L. A., 224
Hoffman, L. A., 244
Hoffman, W. G., 1210
Hogan, John E., 1005
Hogan, J. W., 180
Hoglund, H. J., 180, 1265
Holden, Hale, Jr., 457
Holden, Hale, Jr., 457
Holden, James F., 1403
Holland, J. R., 668
Hollingsworth, S. P., 670
Holshouser, H. C., 912
Holton, J. L., 664
Homewood, C., 628-D43, 628-D98\*
Hook, Charles R., 218, 1261
Hoover, Herbert, 1492‡
Hope, W. C., 586\*, 589
Hopkins, R. S., 990
Horan, Jimmie, 700
Horner, Frederick C., 315
Horner, W. A., 458
Horton, D. C., 1487
Horton, F., 1402\*
Hosking, C. R., 226
House, Thomas M., 1046
Houston, Hoyt, 486
Houston, Hoyt, 486
Houston, Hoyt, 486
Houston, W. W., 1217
Hower, John M., 318
Howard, J. H., 841
Howard, John M., 318
Howell, H. D., 451
Howie, David H., 212
Howson, Elmer T., 384
Hoyt, F. O., 990
Hudson, T. C., 1177, 1179\*
Huesman, F. H., 181
Hughel, George C., 582
Hughes, Mrs. F. A., 981
Hughes, Gerald, 1352
Hughes, Gerald, 1352
Hughes, Gerald, 1352
Hughes, F. W. B., 488
Humphrey, H. J., 396
Humphrey, William, 366
Hundley, J. R., 1152
Hungerford, S. J., 404\*
Hunter, J. R., 900
Hunton, Robert C., 1046
Hurley, J. R., 1179\*
Hurley, J. R., 1181
Hutchimson, Willard P., 581
Hutton, Dr. James H., 971
Hyatt, L. V., 500
Hynes, Richard B., 844

Ibsen, H., 467 Illman, Paul E., 1398‡ Irwin, J. C., 628-D67\*, 1454-D109. Isaak, Charles F., 1486 Isbester, George, 628-D37 Iuler, H. A., 1167

# J

Jackson, J. C., 1548-D40\*
Jackson, J. R., 1177, 1179\*
Jackson, J. W., 900
Jackson, Lee R., 318
Jackson, O. S., 1454-D62\*, 1548-D165\*
Jackson, Roy M., 1084
James, J. F., Jr., 668
James, J. K., 181
Janowski, Walerjam, 700
Jefferson, C. E., 1403\*
Jenkinson, C. H., 899
Jenks, P. G., 151, 217, 664
Jenks, W. J., 1081
Jennings, Bernice, 486
Jenny, Major L. Alfred, 1210‡
Jensen, C. H., 664‡
Jewell, Burt M., 1394
Jirousek, J. J., 900
Johnson, Arthur G., 575
Johnson, Arthur G., 575
Johnson, A. J., 1438
Johnson, E. M., 844
Johnson, E. M., 844
Johnson, G. A., 990
Johnson, G. T., 1548-D108\*
Johnson, G. T., 1548-D108\*
Johnson, Perry, 1501
Johnson, Perry, 1501
Johnson, Perry, 1501
Johnson, Perry, 1501
Johnson, Perry, 1508\*

Johnson, Walter A., 1203
Johnson, W. C., 488
Johnston, C. W., 273\*
Johnston, D. W., 1502
Johnston, E. D., 409
Johnston, J. K., 1404‡
Johnston, L. S., 1611
Jones, C. H., 1454-D60
Jones, Edwin D., 223
Jones, Edwin D., 223
Jones, Fred D., 354
Jones, H. W., 670, 712‡
Jones, H. W., 670, 712‡
Jones, John, 1084
Jones, J. J., 222
Jones, J. J., 222
Jones, J. J., 222
Jones, R. W., 162
Jones, Robert M., 162
Jones, Robert M., 162
Jones, R. W., 1580
Joyce, A. J., 844
Joyce, C. F., 498
Joyce, J. Grover, 668
Joyce, Patrick H., 151, 898, 948‡
Joyner, T. J., 367
Judd, F. R., 628-D186\*
Judson, William W., 1005

K

Kahn, Roger W., 1084

Kamen, N. J., 1261

Kane, J. P., 615

Kanitz, Louis J., 1046

Karow, John H., 1261

Kauffman, J. C., 457

Kavanagh, C. J., 626

Kearns, E. W., 990

Keefe, John J., 700

Keehan, M. E., 625

Keeley, James, 1108, 1166‡

Keilt, F. X., 668

Keirn, D. A., 1501

Keiser, C. B., 1454-D60

Kell, George A., 500

Kell, J. A., 668

Kelleher, W. J., 900

Keller, Thomas, 459

Kelloway, C. J., 628-D117, 1081

Kelly, C. W., 628-D27\*, 628-D37

Kelly, P. V., 1449

Kemp, F. B., 807

Kendall, J. L., 413

Kennedy, Edward, 1353

Kennedy, Edward, 1353

Kennedy, W. V., 1358

Keyes, C. M., 358

Kerr, D. J., 193

Kerr, D. S., 359

Kerr, John B., 132, 222‡

Kerr, V. C., 458

Keyes, J. P., 1403

Kienzle, L. A., 459

Kiesel, W. F., Ir., 1454-D60

Killinger, A. H., 1152

Kimmel, E. L., 1453

King, C. H., 365

King, J. U., 1454-D78\*

King, L. L., 664\*

King, L. L., 664\*

King, L. L., 664\*

King, L. L., 664\*

King, J. U., 1454-D78\*

King, L. L., 664\*

King, J. W., 1004

Kingsley, George E., 1449

Kinney, E. C., 657

Kinney, M. A., 1218

Kinsler, J. D., 712

Kinsworthy, E. B., 180

Kintner, S. M., 990

Kipp, A., 1454-D60

Kippenberger, George L., 409

Kirk, A. M., 416\*

Kirkpatrick, W. M., 899

Kiene, R. L., 1453

Klos, J. A., 935

Kloss, J. A., 945

Kloss, J. A., 945 K Kleine, R. L., 1454-D62\*, 1548-D26\*
Kling, Richard, 628
Klippel, E. A., Jr., 132
Klos, J. A., 935
Kloss, H. E., 436
Klueh, C. J., 1052
Knapp, A., 1548-D18\*
Knapp, Elmer G., 409
Knapp, Elmer G., 409
Knapp, Wilfred McNaught, 850‡
Kniften, R. S., 500
Knight, Frank L., 1251
Knights, A. E., 366
Knouse, L. M., 360
Knowles, Clarence R., 628-D54, 628-D68\* 628-D162
Knox, Dr. R. W., 182
Knox, W. J., 1454-D60
Kocher, Walter J., 225
Koller, L. D., 726
Kramer, Arthur L., 1216

Krampf, L. P., 1548-D7
Krauser, F. C., 457
Krecek, F. J., 899
Kreuger, Victor R., 225
Krohn, Henry, 1302
Kronauer, F. C., 367
Krug, J. W., 318, 1046
Krummen, Edward, 749
Kuehner, A. T., 176
Kuhn, W. N., 950
Kuhns, V. C., 1312
Kurlfinke, O. H., 1312
Kurlfinke, O. H., 1312
Kurn, J. M., 12\*
Kusaka, K., 628-D4
Kyle, C. C., 1454-D78\*
Kyle, Mrs. Paul E., 610
Kyle, R. A., 990
Kyle, William T., 990, 1091\*

Lacy, P. B., 313
Lafferty, Dr. E. E., 418
Lala, P. J., 180
Lamb, W. E., 1614
Lamb, W. E., 1614
Lamb, W. F., 625
Lamont, Hon. Robert P., 7\*
Lamborn, George H., 1449
Lancton, W. H., 668
Landa, F. Dep., 1500
Landis, Col. Lee H., 1613
Landman, Louis W., 416\*, 586\*
Landry, H. D., 181
Landry, Max E., 408
Langley, F. B., 849, 1005\*
Lanham, C. E., 365
Lapp, L. L., 132
Large, A. W., 1598
Larmour, R. E., 1502
La Schum, E. E., 278
Lastinger, C. A., 265
Latham, R. L., 1363
Lauer, Charles, 366
Laughridge, W. H., 1312
Lautz, H. B., 497
Lawler, G. M., 1110
Lawrence, Frank, 1201
Lawrence, W. M., 712
Lawson, Norman, 1403
Lawson, William B., 495
Layng, F. R., 628-D200\*
Leavenworth, Ralph, 408
LeBer, W. O., 500
Le Boutillier, G., 938
Lee, Elisha, 356
Lee, E. H., 628-D162
Leggo, Charles A., 504
Lehman, F. A., 1166
Leiendecker, J. A., 941
Leight, Herbert R., 318\*
Leighton, Bruce G., 315
Lemen, R. W., 532
Lemley, John S., 454, 495\*
Lenner, R. W., 532
Lemley, John S., 454, 495\*
Lenner, R. W., 532
Lemley, John S., 454, 495\*
Lentz, U. W., 626
Lentz, U. W., 626
Lentz, I. S., 1454-D62\*
Lentz, W. L., 938
Lewis, Brenet I., 1068\*
Lewis, G. T., 1453
Lewis, Frank E., 396
Lewis, G. H., 990
Lewis, G. T., 1453
Lewis, Paul C., 1156
Lewis, P. H. W., 628-D5, 628-D8\*, 628-D108
Lewis, M. F., 498
Lewis, M. F., 498
Lewis, M. F., 498
Lewis, M. F., 499
Libby, Warren E., 1041
Lichty, R. L., 132
Liddle, C. A., 151
Lieber, G. W., 390
Lindbergh, Col. Charles A., 358, 1605
Linderman, S. E., 267
Linney, G. H., 849
Littlefield, R. J., 3112
Litzky, Charles, 899
Livingston, Harnold T., 274, 459\*.
Long, R. P., 417
Long, R. P.,

Lorenz, F. C., 495
Lortio, Ernest, 899
Loughnane, G., 1167
Lovell, F. Hallett, 617‡
Lozier, Joseph T., 449
Lozier, W. L., 820
Lucey, John A., 272
Ludington, Nicholas, 1396
Ludlum, T. T., 454
Lull, H. M., 394
Lundahl, R. R., 628-D54
Luter, J. D., 844
Lutkin, H. C., 990
Lynch, George J., 575
Lynde, Samuel A., 1004, 1108\*
Lyons, D. F., 313
Lynn, Samuel, 488, 1454-D131\*

McAllister, F. E., 628-D37
McAlpine, J. H., 950, 1218
McAtee, P. B., 627
McBeth, P. C., 176
McCain, George L., 315
McCall, Harry J. 1005
McCandless, Roy A., 366, 415\*
McCarthy, Daniel B., 940
McCarthy, F. F., 367
McCarthy, F. F., 367
McCarthy, F. J., 910
McCaughan, J. C., 1218
McCauley, William J., 1486
McCauley, J. E., 664
McCavery, Elmer T., 990
McCloskey, James, 264
McConnell, Francis D., 850, 1005\*
McConnell, Francis D., 850, 1005\*
McConnell, L., 176
McCorkle, J. B., 272, 366\*
McConnell, L., 176
McCracken, E. 498
McCurdy, M. H., 990
McDaniel, A. C., 898
McDermott, H. F., 628-D27\*
McDonald, Hunter, 628-D56
McDonald, Leslie B., 626\*
McDonough, F. T., 176
McElroy, Frank, 1354
McElroy, Frank, 1354
McElroy, Frank, 1354
McElroy, Henry E., 224
McFadden, Ethel, 935
McGarry, J. T., 628-D27\*
McGee, H. E., 1613
McGough, S. P., 628-D27\*
McGee, H. E., 1613
McGory, J. I., 1598
McHale, Richard, 1605
McIntyre, Albert C., 627, 669\$
McIntyre, Albert C., 627, 669\$
McIntyre, Albert C., 627, 669\$
McKay, Col, Douglas I., 1548-D58
McKergey, R. H., 786
McKergey, R. H., 786
McKee, R. G., 1167
McKee, R. L., 808
McKee, R. G., 1167
McKee, R. L., 109
McKee, R. G., 1167
McKeen, A. H., 628-D43
McKeligon, A. S., 1454-D78\*
McKenzie, F. E., 459
McKinstry, W. B., 1114
McLarn, J. B., 1401\*
McLean, W. J., 498
McLoadhon, John F., 1265
McManara, W. T., 458, 399
McNaul, C. B., 1261
McMillan, C. B., 1664
McMillan, J. S., 899, 1217‡
McMullan, J. S., 899, 1217‡
McMullan, C. B., 1661
McNeill, Elbridge H., 1449\*, 1492
McNaul, C. B., 1261
McNeill, Elbridge H., 1449\*, 1492
McNaul, C. B., 1261
McNeill, E. F., 366
McOuat, L. C., 500
McPherson, C. E., 899, 948\*
McRoe, N. B., 175
McRepolds, E. H., 1218
McRoberts, I. J., 224
McVicar, Robert, 1142 M

Maag, Henry, 408 Mabie, G. R., 626 Macalister, J. N. K., 132 MacBain, D. R., 938 MacElwee, Roy S., 786‡ MaeFarlane, M., 1177, 1179\*

MacKay, James L. 223, 498‡
Mack D. T., 820
Mack D. T., 820
Mack D. T., 820
Mack C. E., 1580
Macomber, L. E., 1580
Macomber, L. E., 1580
Macomber, I. A., 849
Macpherson, V. M., 850
Maddux, J. L., 358
Madison, F. H., 366
Maer, O. E., 414‡
Magee, G. M., 1237
Magers, E. L., 899
Mahaner, J. E., 1548-D7
Mahar, Thomas, 1312
Main, F. W., 413
Mainor, James Bradley, 837
Maloney, Joseph T., 450
Mangold, F. J., 540
Mangold, F. J., 540
Mangold, J. H., 841
Manion, Ira E., 366, 627\*
Mann, E. Z., 1224\*
Mann, H. J., 1205
Mann, William, 1004
Mansfield, J. J., 670
Markel, L. G., 1046
Markham, Col. Edward M., 358
Marish, C. P., 1580
Marsh, Arthur E., 658
Marsh, C. P., 1580
Marshall, J. A., 900
Marshall, J. A., 900
Marshall, J. A., 900
Marshall, R. S., 222
Marshall, Walter, 459
Martin, A. C., 132
Martin, E. B., 1217
Martin, Roscoe, 396
Marwick, A. F., 176
Mason, E. W., 1352
Masters, F. H., 181
Masters, G. LaRue, 981, 1210\*
Matchett, S. M., 176
Mathern, E., 1265
Mathews, C. H., Ir., 589
Mathews, C. H., Ir., 589
Mathews, F. D., 384
Maupin, J. D., 1454-D60
May, John L., 1501
May, John

# ELECTIONS AND APPOINTMENTS—Continued

[\* Indicates photograph and sketch \$ Indicates sketch only]

Obagge, John, 982
O'Brien, F. J., 1454-D4\*, 1548-D63
O'Brien, M. F., 1487
O'Brien, W. J., 1454-D60
O'Connor, John F., 1548-D10
O'Connor, Owen, 414
O'Connor, T. E., 844
Odell, P. E., 271
O'Donnell, W., 1403
Ogden, George D., 1027\*
O'Hara, C. F., 1614
O'Hearn, J. A., 807
Oldham, J. M., 1265
Olds, W. M., 1454
O'Leary, John W., 898, 948‡
O'Leary, John W., 898, 948‡
O'Leary, John W., 898, 948‡
O'Leary, John W., 1200
Olip, C. E., 180, 414
Olisen, Einar, 222
Ommaney, Major G. G., 132
Ong, J. E., 225
Oppelt, J. H., 181, 417‡
Ormond, M. J., 627
Orr, H. H., 628-D108\*
O'Shea, Benjamin, 359
Osman, Samuel E., 611
Osterhout, C. C., 218\*
Osthoff, N. C., 990
Ousey, V. M., 1453
Owen, A. E., 950
Owen, Mildred, 570
Owen, R. G., 1354
Owen, W. C., 849

P

Pack, A. G., 1548-D167\*
Packard, D. B., 628
Page, O. H., 849
Page, O. W., 1453, 1614
Painter, Charles R., 132\*
Painter, I. H., 1454-D60
Palm, George H., 318
Palmer, E. P., 983
Palmer, G. N., 1401
Palmer, G. N., 1401
Palmer, H. A., 841
Palmer, H. S., 1115\*
Panter, J. A., 498
Paradise, T. E., 1266
Paradise, T. F., 1613
Park, E. S., 1261
Parker, Frederick H., 416\*
Parks, George 540
Parmelee, Arthur L., 132
Parmelee, Julius H., 23\*
Pavin, Victor, 1587
Pashley, W. Earle, 1156
Passmore, H. E., 664
Patchell, F. W., 367
Patterson, A. J., 1453
Patterson, A. J., 1453
Patterson, A. J., 1453
Patterson, R. E., 1173
Patton, W. G., 180
Paulding, Charles C., 1263
Pauley, G. B., 1266
Payne, J. B., 272
Payne, J. E., 1502
Peabody, Reuben H., 1312
Peacock, J. A., 990
Peck, W. F., 1224\*
Peckenpaugh, C. D., 180
Pelley, J. J., 15\*, 1613
Penney, John, 384
Perez, Leonard, 618\*
Perkins, George B., 1453, 1613‡
Perkins, George B., 1453, 1613‡
Perkins, Thomas Nelson, 898
Perrine, W. M., 670
Perritt, H. F., 182
Perry, R. E., 225\*
Pershall, E. E., 1122
Peterson, C. W., 271
Peterson, E. W., 1454-D155\*
Pett, Imer, 848
Pettigrew, Guy Thomas, 225\*
Pershall, E. E., 180
Perrine, W. M., 670
Perritt, H. F., 182
Perry, R. E., 225\*
Pershall, E. E., 180
Peffere, L. G., 180
Priner, W. M., 1654
Priner, W. M., 1654
Pillips, G. A., 1173
Phillips, G. A., 1173
Phillips, G. A., 1173
Phillips, G. A., 1173
Phillips, George Z., 1614
Phillips, Harry S., 224\*
Phipps, Lawrence C., 1352
Pierce, Arthur S., 942, 1004, 1108\*
Pierre, E. C., 272
Pierson, H. H., 702
Pigott, H. L., 582
Pilsbury, Col. George B., 358
Pinkerton, H. W., 1580
Piper, E. H., 225\*
Pictchord, J. S., 182
Pilsbury, Col. George B., 358
Pinkerton, H. W., 1580
Piper, E. H., 225\*
Place, Willard F., 222‡

Platt, Calvin, 1201
Plogstead, Walter J., 938
Plott, C. E., 1167
Pogue, A. A., 459
Pollard, A. P., 628-D4, 1454-D160\*
Pollard, H. D., 1081
Pomeroy, F. B., 1487
Pontius, D. W., 533
Pool, Ira J., 1312
Porter, H. K., 217, 268\*
Porter, H. K., 217, 268\*
Porter, H. W., 749
Porter, LeRoy V., 271, 364\*
Post, Kirby M., 365\*
Post, W. G., 223
Post, W. G., 223
Post, W. M., 628-D10\*, 628-D123\*
Postethwaite, J. R., 1501
Potari, E. L., 225
Potter, Daryl, 1611
Potter, N. E., 500
Powell, George B., 706‡
Powerl, T. C., 1108
Powell, Victor U., 417
Power, J. A., 1454-D62\*
Powers, Cedric, 360
Powers, W. M., 499
Prather, A. K., 449
Prather, W. A., 670
Prendergrass, R. A., 1403
Prettyman, Cannon F., 1261
Priest, Joel L., Jr., 1502
Prince, George H., 948
Protz, O., 500
Prussing, R. E., 1449
Pulcipher, K. D., 1614
Pullian, H. S., 1167
Purcell, J., 1454-D62\*
Purdon, Charles D., 274\*
Pyle, L. R., 1205, 1312

Quigley, J. P., 181 Quilty, B. J., 180 Quinn, L. A., 176

R

Q

R
Raab, George H., 1312
Rafter, C. E., 409
Ragin, William Crosswell, 459, 582‡
Rainer, J. D., 586\*
Rainie, H. M., 1454-D163\*
Ramp, Charles Kelly, 1261
Ramsdell, Ralph, 318
Randall, E. F., 899
Randolph, N. P., 182
Raney, G. W., 1453
Rank, C. F., 180, 1403
Rankine, James C., 848\*
Ransford, H. E., 409
Rawlins, C. H., 1224\*
Rawson, William E., 712, 808\*
Ray, E. L., 581
Ray, George J., 820, 1411
Ray, H. E., 814
Raymond, Marshall D., 1210
Rayn, J. B., 224
Rea, J. W., 936
Reaph, J. V., 983
Rectanus, S. R., 218
Redmond, John W., 1262
Recce, A. N., 628-D193\*, 910, 1237
Reese, O. P., 396
Regves, A. C., 950
Relanquist, Nelson L., 409, 575‡
Reichart, G., 356
Reidy, W. F., 1166
Railley, W. W., 1216
Reilly, W. L., 844
Relf, R. H., 312
Remington, H. M., 1607
Renick, H. W., 628-D27\*, 628-D37
Renshaw, Fred M., 843
Rex, C. B., 1453
Reynolds, H. N., 1312
Reynolds, H. N., 1312
Reynolds, H. N., 1312
Reynolds, H. N., 1501
Rhodes, George D., 878
Rhodes, J. E., 222
Rhoads, J. J., 1501
Rhodes, George D., 878
Rhodes, J. E., 222
Rice, A. H., 628-D108\*
Richardson, B. M., 355
Richardson, G. P., 628-D182\*
Richardson, G. P., 628-D182\*
Richardson, George R., 272
Richardson, Marion B., 700
Rickard, R. D., 132
Ricker, H. E., 271
Riebling, Carl A., 899
Riggs, M. D., 181
Riley, Andrew, 367\*
Riley, Joseph, 1449
Riley, J. A., 990
Riley, J. D., 1502
Ringer, F., 628-D76\*, 628-D117, 1081
Rink, George W., 181, 670

Ripley, C. T., 1152
Rittenhouse, J. A., 807
Ritterbush, L. C., 891
Rivers, W. E., 899, 900
Roaghan, A. J., 1500
Robb, Murray K., 181
Roberson, F. A., 1453
Robert, S. A., 271
Roberts, Clarence, 1177, 1179\*
Roberts, Clarence, 1177, 1179\*
Roberts, Clarence, 1177, 1179\*
Robertson, Curtis H., 1109
Robertson, W. Spencer, 217
Robie, C. W. 278
Robinson, Curtis H., 138
Robinson, M. J., 193
Robinson, Bernard M., 318
Robinson, Bernard M., 318
Robinson, Bird M., 938
Robinson, Harry R., 741
Robinson, John A., 180
Robinson, L. K., 844
Robinson, U., 670
Robinson, L. K., 844
Robinson, W. L., 1179\*
Roche, John A., 1210
Rodger, John H., 1454-D61
Rogers, E. I., 628-D42. 628-D128\*
Rogers, Peter B., 367
Rogers, Ralph B., 1403
Rohow, G. R., 1205
Rohwer, O. D. H., 664
Roll, D. K., 471
Rolla, Mrs. Josie, 610
Roller, W. L., 1218
Roiston, H. W. 1202, 1454-D140\*
Ronalds, Hugh, 417
Root, Clyde V., 454
Roquemore, J. P., 417
Rosemper, H. T., 1403
Rosevear, Matthew, 878
Ross, J. A., 176
Rossevear, J. M., 1401\*
Rosevear, Matthew, 878
Ross, J. A., 176
Rothschild, J., 1587
Rowe, H. A., 1081, 1318
Rowland, S. V., 498, 626
Rowley, George H., 409
Rudd, A. H., 628-D104\*, 628-D117.
1081
Rugg, W. S., 990
Runey, Frank J., 1109, 1167\$
Runnells, Clive, 412
Rupert, C. H., 181
Rush, Harry W., 1004, 1109\*
Russell, A. P., 533, 1506\*, 1454-D57\*, 1613
Russell, G. A., 366
Russell, George F., 1303\$
Russell, G. A., 366
Ryan, P. T., 807
Ryan, T. H., 1454-D58
Ryder, Gilbert E., 1454-D5\*
Ryding, Herbert C., 360

Sabbot, P., 367
Sails, H. N., 223
Sale, C. S., 540
Salisbury, W. W., 225
Sampson, Frank E., 274
Sanborn, F. D., 272
Sanchez, Jose M., 1347
Sanders, Walter C., 1454-D4\*
Sanders, Walter C., 1454-D4\*
Sanders, Walter C., 1454-D4\*
Sanders, Malter C., 1454-D4\*
Sanders, Malter C., 1454-D4\*
Sandres, J. E., 670
Santry, Joseph V., 2673
Sargent, F. W., 16\*
Sauls, C. B., 950
Saunders, J. E., 628-D23\*
Saunders, J. E., 628-D23\*
Saunders, J. T., 394
Savage, Col. H. D., 267
Savary, W. B., 408
Sayers, E. F., 1046†
Scaife, Arthur J., 315
Scaife, Arthur J., 315
Scaife, Arthur J., 315
Scaife, Arthur J., 315
Scaife, M. I51
Scandrett, H. A., 10\*, 356\*
Scanlon, William T., 1251
Schaff, Frederick Alan, 360\*
Schaltman, R. C., 618
Schatzman, R. C., 618
Schickedanz, S. A., 600
Schilling, F. A., 500
Schleiter, Walter F., 938
Schlendorf, J. M., 991
Schlotterer, G. H., 900
Schleiter, Walter F., 271
Schoch, M. G., 223
Schoffield, J., 555
Schroeder, H. S., 1346
Schultz, George H., 910
Schurch, John F., 267\*
Scott, C. K., 367
Scott, G. E., 1454-D78\*
Scott, Gen. Hugh S., 1605

Moore, Fred V., 359
Moore, H. B., 983
Moore, Henry C., 417
Moore, John C., 981
Moore, John C., 981
Moore, M. B., 627
Moore, Ray H., 1449, 1492\*
Moore, Ray H., 1449, 1492\*
Moore, Robert H., 384
Moore, Rolla W., 1548
Moore, William N., 1312
Moors, H. M. 1468
Moran, J. A., 899
Morehead, W. S., 1548-D7
Morgan, J. A., 899
Morehead, W. S., 1548-D7
Morgan, J. J. 1610
Morris, Harley, 844
Morris, H. D., 1318
Morris, H. D., 1318
Morris, R. H., 366
Morris, W. H., 1057, 1548-D38\*
Morse, F. H., 627
Moss, R. W., 627
Moss, T. J., 384
Mottel, Ottokar L., 1490
Mountain, J. A., 664
Mountfort, E. L., 181
Moy, W. S., 180
Moynihan, H. A., 533
Muchnic, Charles H., 938
Muckenhaupt, F. J., 1265
Mulconnery, Mike, 1084
Mulderig, T. M., 1152
Muller, H. N., 409
Mullinix, W. R., 176
Mumaw, W. C., 486
Munro, W. I., 712
Munroe, J. T., 1454-D60
Munster, A. S., 628-D4
Murdock, S. B., 1614
Murphy, B. C., 1166
Murphy, B. C., 1166
Murphy, M. T., 1110
Murphy, M. T., 1110
Murphy, M. T., 1110
Murphy, M. T., 1110
Murphy, James C., 657
Murray, R. D., 899
Murray, W. F., 1453
Murrin, C. H., 1454-D86\*
Myers, B. E., 711
Myers, Fred, 367
Myers, F. L., 223
Myers, Harrie E., 1404, 1502\* Nachtmann, F. X., 1177
Naíziger, Elmer, 362, 412
Napier, J. J., 849
Nash, C. P., 504
Nash, C. W., 943
Nash, E. E., 272
Nash, J. A. 670
Nash, J. H., 1454-D60
Naylor, Norman C., 217, 267\*, 1454-D4\*
Neagle, E. F. 627 Nash, J. H., 1454-D60
Naylor, Norman C., 217, 267\*, 1454-D49
Neagle, E. F., 627
Needles, A. C., 14\*
Neff, P. J., 1507\*, 1454-D75\*
Neff, Pat M., 260
Nellis, F. L., 625
Nelson, C. W., 271, 414\*
Nelson, H. S., 668
Nelson, John F., 454
Nelson, William H., 454
Nessum, Richard B., 1403
Neubert, John V., 628-D6, 628-D54, 628-D139\*, 628-D162\*, 938
Newby, C. L., 1210
Newcomb, H. T., 899\*
Newcomb, H. T., 899\*
Newcomet, H. E., 628-D7
Newman, Kathryn, 1605
Newman, W. H., 628-D55
Newton, B. P., 664
Newton, Robert, 990
Nicholas, R. H., 670
Nichols, Pomeroy, 498, 626\*
Nicholson, J. M., 1177, 1179\*
Nields, Benjamin, Jr., 1346
Nieman, C. J., 1454-D4\*
Nimmo, F. B., 990
Nixon, L. A., 841
Norris, E. R., 664
North, Louis A., 669
Northenscold, E. M., 628
Northup, W. J., 320
Norton, L. E., 669
Nott, Don, 808
Nowotny, L. R., 1403
Nuelle, Ioseph H., 132, 2222
Nugent, Francis, 1403, 1404
Nystrom, K. F., 356\* Scott, J. L., 668
Scott, John M., 1265, 1402\*
Scott, Thomas, 625, 8073
Scott, Thomas, 625, 8073
Scott, Mrs. Winifred, 486
Scovell, Millard G., 272
Seames, George, 1340
Sears, A. B., 1110
Seavey, Clyde L., 355, 838
See, Gardner, 354
See, Gardner, 354
See, Gardner, 354
See, Gardner, 354
Seeley, W. L., 458
Sciberlich, F. J., 458
Sciberlich, F. J., 458
Sciberlich, F. D. D., 271
Scidl, E. A., 1068
Sclf, Edwin B., 1303
Senger, J. W., 1454-D60
Sewell, H. J., 458
Sexton, John R., 808, 9503
Sexton, John R., 808, 9503
Sexton, J. W., 625
Seymour, M. W., 4093
Shackelford, E. D., 1167
Shackelford, William A., 181
Shaffer, F. A., 1166
Shanks, H. T., 1548-D7
Shaye, Frederick C., 498
Shaw, Albert, 1091
Shaw, Benjamin B., 1492
Shay, J. M., 615
Shea, John, 581
Shea, William, 181
Sheaffer, J. H., 1119
Shechan, William M., 1261
Sheets, C. L., 948
Sheffleld, C. G., 224
Sheldrick, John G., 459, 6692
Shepherd, F. C., 628-D120\*
Sherer, R. E., 1454
Sherman, Roger, 750
Sherwin, John, Jr., 1216
Shieds, A. C., 497
Shields, G. R., 176
Shipley, Grant B., 1261
Short, Frisco Whalen, 700
Shotwell, Larry, 1201
Shoup, Paul, 11\*
Shultz, C. N., 449
Shumate, Golder, 1500
Shoft, F. H., 909
Sibley, Clinton G., 849, 10052
Siegel, William J., 1152
Siegel, William J., 1183
Singleton, A., 1218
Singleton, A., 1218
Singleton, A., 1218
Singleton, M. E., 1003
Sirrine, E. D., 540
Skinner, O. C., 990
Skog, C. A., 273\*
Slade, George T., 983
Slagle, C. G., 615
Slater, C., 1502
Slaughter, Dr. J. H., 418
Slaven, J. T., 506
Slavann, Morley S., 844
Smith, A. W., 1487
Smith, B., 366
Smith, A. W., 1487
Smith, B., 366
Smith, A. W., 1487
Smith, E., 1101
Smith, F., 1101
Smith, F., 1101
Smith, F., 1101
Smith, F., 1101
Smith, R., 417

Sorenson, T. R., 451
Spain, John F., 274
Spangle, W. J., 1347
Spangle, W. J., 1347
Spangler, W. N., 628-D108
Sparks, G. C., 983
Sparks, Hynes, 1449
Spaulding, C. L., 1052
Spaulding, R. H., 161
Seer, Fred, 175
Speirs, Andrew, 495
Spence, C. L., 664
Sperry, B. L., 807
Sperry, Dr. Elmer A., 396
Splawn, Dr. William W., 611, 701
Splitstone, C. H., 866
Sporleder, W. N., 271
Sproul, Brawn C., 750
Stackhouse, R. K., 1507\*, 1454-D75\*
Stachle, Earle J., 499
Stafford, Frederick O., 416\*
Stancliffe, W. L., 540
Stanlord, J. T., 626, 948‡
Stanley, E. W., 626
Stanley, Robert C., 496
Stark, A. O., 664
Stark, S. J., 500
Stark, W. D., 1453
Stearns, W. G., 990
Stedie, W. H., 628, 1453
Stedman, E. A., 278
Steeper, D. W., 849
Steffens, T. H., 444
Stein, A. D., 990
Stembel, C. P., 151, 664
Stephen, George, 1264\*
Stephenson, W. C., 161
Stephenson, W. S., 495
Stern, C. A., 983
Stern, Victor, 451
Stevens, H. E., 312
Stevens, H. E., 312
Stevens, John F., 1605
Stevens, T. S., 628-D117, 1081
Stevenson, W. M., 575
Stevenson, William T., 271, 364\*, 497
Stewart, A. P., 1217
Stewart, D. A., 264, 271
Stewart, D. A., 264, 271
Stewart, J. P., 1224\* Stevenson, K. B., 1107
Stevenson, W. M., 575
Stevenson, William T., 271, 364°, 497
Stewart, A. P., 1217
Stewart, J. P., 1224°
Stier, H. D., 499
Stiglmeier, Albert F., 1312
Stimson, Earl, 628-D150°
Stocker, A. J., 900
Stoll, A. E., 365
Stoltz, C. F., 628-D43, 628-D108
Stone, Judson F., 990
Stone, Judson F., 990
Stone, T., 749
Storey, W. B., 14°
Stovel, R. W., 983
Stovasser, W. H., 1266
Strahan, Percy T., 1114
Strowali, A. T., Jr., 668
Stovali, A. T., Jr., 668
Stowasser, W. H., 1266
Strahan, Percy T., 1142
Strowh, E. F., 1454
Strohm, W. G., 458, 899
Strong, I. B., 628-D55, 786, 938, 1454-D61°
Stump, J. C., 500
Stumpf, J. E., 1265
Sturdee, E. F. L., 900, 949°
Sullivan, Arthur W., 409
Sullivan, J. F., 668
Sullivan, J. J., 1110
Sullivan, J. F., 668
Sullivan, J. J., 1110
Sullivan, J. F., 668
Sullivan, Mortimer, 990
Sullivan, J. F., 668
Sullivan, Mortimer, 990
Sullivan, Mortimer, 990
Sullivan, Mortimer, 990
Sullivan, W. W., 222
Sulcff, N. H., 1580
Summy, C. D., 278
Sunny, Bernard E., 898, 948‡
Surles, J. W., 900, 1110‡
Sweney, F. W., 1114
Swope, B. M., 670²
Swope, C. A., 356
Sydnor, J. L., 1548\*
Sykes, A. R., 670
Sykes, Wilfred, 891
Symington, Thomas R., 1091

## T

Taft, Lorado, 590\*
Talhot, Arthur N., 628-D85\*
Tankred, C. A., 176
Tapp, W. J., 1179\*
Tate, Hugh M., 441‡, 573\*
Tate, M. K., 1312
Taylor, B. W., 218‡
Taylor, Frank W., 459
Taylor, H. P., 180
Taylor, H. S., 626
Taylor, R. D., 1109
Teal, J. E., 628-D203\*
Tector, Ralph R., 315

Thayer, Charles G., 354
Thichoff, J. E., 1265
Thomas, A. R., 497
Thomas, E. Frank, 450
Thomas, Bohn W., 318
Thomas, M. W., 850
Thomas, M. W., 850
Thomas, Robert W., 1501
Thompson, M. D., 1501
Thompson, Col. Carmi A., 409
Thompson, Col. Carmi A., 409
Thompson, Frederick W., 224
Thompson, V. L., 899
Thompson, V. L., 899
Thompson, W. E., 1403
Thompson, W. E., 1403
Thompson, L. C., 1454-D78\*, 1548-D7\*
Thorne, Thomas J., 1261
Thornton, Sir Henry W., 658, 660\*, 1053\*
Thorp, J. S., 1411
Tice, M. L., 990
Tierney, J. E., 1354
Tighe, William A., 354
Tiley, R. R., 950
Tillett, C. H., 628-D108, 628-D117, 1081
Timken, Henry H., Jr., 990
Timmen, I. B., 628-D37 Tiley, R. R., 950
Tillett, C. H., 628-D108, 628-D117, 1081
Timken, Henry H., Jr., 990
Tinnon, J. B., 628-D37
Tobey, C. B., 1454-D78\*, 1454-D144\*
Tobin, B. F., Jr., 750
Todd, Merle, 837
Todd, P. H., 272
Tombs, G. D., 670
Tomlinson, G. A., 1216
Toms, John C., 1166
Tookey, H. R., 1454-D86\*
Tooker, Capt. George H., 1052
Tooker, H. B., 1353
Toppino, Emmett, 449
Torbert, A. C., 175
Torian, J. G., 807
Towne, W. J., 1081, 1387
Towsley, A. W., 1187
Tracy, M. D., 454
Trantin, J., Jr., 175
Travis, William E., 1041
Tredway, F. Q., 2264
Treiber, Otis D., 315
Trowbridge, William S., 581, 807\*
True, R. W., 1403
Trumbull, A. G., 1454-D62\*
Tunnell, J. E., 457
Turner, Alexander, 786
Turner, William T., 336
Tuthill, G. C., 1414
Tuttle, R. H., 1265
Twiss, M. H., 1084
Twogood, R. S., 1179\*
Tyler, C. M., 850, 1167\*

Ulrich, C. A., 1167 Ure, W. S., 899

### V

Vail, Carleton H., 1004
Vallee, A., 628-D102\*
Van Allen, W. C., 457
Van Brimer, George, 498‡
Vance, C. D., 1166
Vandersluis, W. M., 1501\*
Van Doren, R. N., 942
Vanhecke, David, 458
Van Horn, C. W., 615, 1108
Van Rensselaer, J. R., 176
Van Schoyck, N. J., 180
Van Senoyck, N. J., 180
Van Seningen, O. P., 1216, 1264, 1352, 1353, 1500
VanWinkle, J. Q., 1500
Vanclain, S. M., 1548-D140\*
Veale, C. A., 180
Venton, F. W., 1224
Verity, Calvin, 218
Verity, George M., 218, 1261
Vodges, J. J., 983
Voeikl, J. G., 1403
Vogel, J. L., 820
Voight, J., Jr., 617
Von Bergen, E., 1224\*
Von Schrenk, Dr. Herman, 938
Vosburgh, Loren F., 271, 363\*
Vosmer, William, 1210
Vought, Charles M., 315
Vroman, B. H., 807

### W

Wade, C. J., 271
Wade, H. J., 180
Waid, George S., 625\*
Wais, A. C., 176
Waite, Henry M., 983
Waldvogel, E. C., 409
Walker, A., 1502
Walker, Alex E., 991
Walker, Henry M., 533
Walker, John B., 725\*
Walker, John S., Jr., 844
Walker, Samuel H., 356
Walker, William, 181, 500

Wallace, R. H., 586
Wallace, William, 3652
Wallace, William, 3652
Walley, Dr. Willis, 418
Walsh, C. E., 1454-D78\*, 1548-D7\*
Walsh, G. B., 1454-D60
Walsh, J. H., 657
Walsh, James H., 891
Walsh, Stella, 1251
Walton, O. E., 1394
Walton, N. B., 712\*
Wardad, O. E., 1152
Ward, W. H., 712
Warfel, G. H., 1081
Waring, E. G., 712
Waring, E. G., 712
Waring, F. M., 1548-D115\*
Warner, Edward P., 315
Warrer, Edward P., 315
Warrer, H. E., 271
Warthen, H. J., 1454-D60
Wass, S. B., 669\*
Wasson, H. Q., 1167
Watkins, F., 457
Watkins, J. W., 267
Watkon, J. J., 626, 1453
Watson, T. P., 983
Watt, R. Nevin, 990
Wattenbarger, Roy, 1614
Weaver, E. H., 1224
Weaver, Larry A., 1403\*, 1614
Webb, William A., 807
Webb, W. H., 779
Webb, W. H., 779
Webber, E. F., 1548-D109\*
Webster, Frank W., 1041
Webster, Frank W., 122
Weigley, H. C., 1611
Weindel, H., 1454-D93\*
Weir, John, 486
Weir, O. A., 366, 414\*
Welch, R. S., 615
Welch, M. E., 414
Welsh, P. E., 712
Welch, M. E., 414
Welsh, P. E., 712
Welch, R. S., 615
Welch, M. E., 414
Welsh, P. E., 712
Welch, R. S., 615
Welch, M. E., 414
Welsh, P. E., 712
Welch, R. S., 615
Welch, M. E., 414
Welsh, P. E., 712
Welch, R. S., 615
Welch, M. E., 414
Welsh, John S., 1403
Westall, William T., 500, 628\*
Westall, William T., 500, 628\*
Westerman, F. H., 181
Westlake, John E., 1217
Weston, A. H., 844
Wetterill, Frank B., 454
Wetzel, F. S., 779
Wetzell, R. L., 13034
Whestalk, John E., 1217
Weston, A. H., 844
Wetterill, Frank B., 454
Wetzel, F. S., 779
Wetzell, R. L., 1303, 366\*, 1453
Williams, Charles, 950
Williams, W. D., 459
Williams, W. D., 459
Williams, W. D., 459
Williams, W. D., 459
Williams, W. D

# ELECTIONS AND APPOINTMENTS-Continued

[\* Indicates photograph and sketch | Indicates sketch only]

Wilson, R. R., 318, 1046 Wilson, Sherman E., 1152 Wilson, T. B., 533, 1041, 1303\*, 1454-D75

Wilson, V. H., 1265 Wilson, William, 504 Wilson, Mrs. Woodrow, 394 Windham, L. E., 849 Wine, W. E., 1454-D4\*, 1548-D63 Winfield, J. C., 272 Wink, L. R., 1152 Winkless, C. T., 1179\*, 1205 Winship, George, B., 1605 Winslow, F. B., 486 Wipprecht, R., 899 Wishart, J. G., 181, 417\* Wishart, William C., 271, 364\*, 938, 1114

Withall, Albert P., 990, 1091\* Witherow, William T., 991 Withington, S., 628-D190\* Witt, S. A., 1205, 1224

Woerner, A. H., 950 Wolcott, L. E., 628-D37 Wolcott, L. M., 1501 Woltemate, W. H., 417 Womble, J. W., 1217 Wonnell, Grover, 1454-D162\*

Wood, A. R., 180 Wood, Carl E., 459 Wood, C. O., 273\* Wood, E. B., 224 Wood, E. L., 225 Wood, Frederick O., 1109, 1167\* Wood, G. B., 1614 Wood, G. H., 1548-D11\* Wood, G. V., 176

Wood, G. V., 176
Wood, H. B., 1109
Wood, General Robert E., 218
Wood, W. H., 180\*, 414
Wood, Wilfred R., 267
Woodall, L. H., 850
Woodruff, Fred P., 355
Woodruff, R. E., 1081
Woods, D. S., 176

Woods, G. D., 367
Woodson, E. R., 1115\*
Woodward, E. L., 1179\*
Woodworth, C. C., 668
Woodworth, Elvin W., 224
Woodworth, Elvin W., 224
Woodworth, Elvin W., 224
Woodworth, Elvin W., 224
Woodworth, I. G., 313
Woody, C. O., 750
Wooster, H. A., 1303\*
Worack, A. L., 1156
Worcester, Harry A., 412
Wren, C. F., 1041
Wren, M. S., 1545
Wright, A. H., 414
Wright, C. S., 1312
Wright, C. W., 151
Wright, George I., 1255
Wright, Noel B., 850\*

Wright, Noel B., 850\* Wright, Roy V., 1454-D10. Wright, Walton O., 1502\* Wylie, J. C., 618 Wysor, R. I., 990

Y

Yager, Louis, 628-D6, 628-D59\*, 628-D117
Yarnall, James V., 1043
Yarnell, R. H., 1502
Yoakum, F. E., 180
York, D. S., 180
Youman, J. D., 181
Young, Brigham, 1438
Young, D. R., 1354
Young, George H., 898
Young, L. B., 540
Young, L. W., 360
Young, Morris G., 1043
Younger, John, 315
Yowell, W. L., 1453

Zahnen, J. P., 375 Zane, W. F., 628-D108 Zimmermann, C. M., 1142 Zwight, S., 1454-D62\*

# OBITUARY

Adsit, Samuel Denison, 182 Airey, Charles Theodore, 808\* Ainsworth, Harry, 455, 495\* Anderson, Albert W., 418, 460‡ Andrews, Charles M., 1006 Andrews, John B., 900 Andrews, Robert C., 226‡, 458 Armstrong, Alfred G., 1168 Arnold, Edward, 182

Barnes, S. H., 900‡
Barrows, Oliver B., 618
Bates, L. M., 181
Biette, F. C., 459
Boucher, M. W., 900
Brand, Robert A., 1502
Brewster, Morris B., 941‡
Brigham, Henry H., 218, 219‡
Brook, C. E., 459
Browne, Herbert L., 418
Bullard, Augustus H., 891\*
Byrne, Frank T., 224, 226

Carlson, C. F., 625, 628 Castillo, Miguel, 950 Chipman, K. L., 458 Class, A. B., 668 Clifford, J. V., 418, 1167 Cooley, M. W., 1168 Cooper, Winfield S., 460\$ Costello, M. J., 182, 415 Cowan, James D., 576

Cowan, James D., 576

Eavidson, Robert J., 891\*
Davie, George F., 891‡
Dean, John S., 1502
Deeks, George, 1156‡
DeHaven, George, 226‡
DePew, Ray L., 1454
Dick, Martin M., 226‡
Dignan, John F., 1454, 1501
Dinkey, John F., 368‡
Donahue, Daniel W., 900‡
Dudley, W. J., 500
Duncan, H. M., 271, 368
Dunn, P. T., 1168

Emerson, Charles, 850, 900

Farris, W. E., 182‡ Felton, Samuel M., 653\*, 898 Fenn, Frank DeVaulle, 707\* Ffolliott, Charles, 788‡ Fisher, Edward C., 495, 576\*

Fitzhugh, Earl H., 182 FitzSimons, James, 1109 Forbes, J. M., 459 Freet, W. H., 1091‡ Fries, Archibald, 1454\*, 1500 Fruehauf, August C., 1304\*

Garwood, Judge H. M., 1454
Gates, Edward F., 669
Gegory, Arthur N., 219
Gettle, Lewis E., 808
Gignoux, C. G., 366
Gilmore, Thomas N., 418
Glennon, Edward T., 368‡
Goetz, L. J., 1614
Gordon, W. H., 498
Graham, Richard W., 1168‡
Grandy, Albion L., 1218, 1266\*
Greenabaum, A. L., 1398
Greene, William Milbury, 1404‡
Gross, Daniel Wingerd, 368, 41
G28
Gude, John A., 950

Hadley, Dr. Arthur Twining, 606\*
Hallett, Oliver E., 1218
Hammond, H. D., 618\*
Harrison, James N., 1502
Hartz, Irving T., 176\*, 218
Hausfeld, Bernard J., 576
Higgins, Hugh C., 1168, 1403
Hitch, C. M., 670
Hobbs, W. S., 670
Hobbs, W. S., 670
Hodges, Clarence W., 360‡
Kogeland, Albert H., 1266\*
Horsburgh, David W., 950
Hoy, Sir William, 662\*
Huston, Abram Francis, 268‡

Isaacs, Harry, 628‡, 1109

Jackson, Homer J., 9502 Jacoby, William L., 2192 Venkinson, Charles 2012 Johnson, Boone V. H., 1398

Keiliher, B. B., 226‡ Kerr, James B., 950‡ King. Warren Phelps, 410\* Kingham, John, 259 Kluever, Edwin W., 582‡ Knight, William B., 460‡ Krebs, Conrad F., 1218\*, 1265

LaRue, Henry, 850‡
Latimer, Samuel A., 272, 366
Lee, Frederick H., 1006
Libkeman, W. A., 1210
Lillie, E. E., 807, 808‡
Locke, Eldridge S., 1110‡, 1265
Lockwood, James E., 950‡
Loomis, William L., 181
Lyman, Alexander Steele, 670\*, 1004

Lyman, Alexander Steele, 670\*, 10
McCarty, Eugene S., 1454\*,
McCleary, E. T., 991, 1091
McLachlan, Archibald Carr, 576
McLean, Henry G., 850, 1265
MacDowell, Walter, 368
Martin, William P., 900
Martyn, David H., 1006\*,
Menzies, James, 182‡
Miller, Harry I., 1006, 1110\*,
Miner, William H., 391\*
Mitchell, John H., 268\*,
Moeller, Herman F., 459\*,
Moeller, Albert L., 1454\*
Monler, Albert L., 1454\*
Monroe, Harry L., 219\*,
Motter, W. C., 1548-D138
Mulvane, Joab, 418\*,
Nelson, C. W., 1453, 1454

Nelson, C. W., 1453, 1454 Nixon, Walter E., 486 Norwood, Clarence H., 941‡ Notman, George, 712

O'Brien, John W., 368, 458, 582‡ Ogden, Otis O., 500

l'arkman, Taylor, 1391 Payson, A. H., 368, 4183 Peterson, John C., 368 Plank, V. R., 628, 950 Fratt, Francis Cole, 1603 Price, F., 849 Pritchard, John T., 1614

Ranney, Frederic G., 460‡
Reddig, H. F., 368‡, 413
Fope, F. W., 272, 368
Redding, J. H., 418, 459‡, 627
Reitz, William C., 1156
Richardson, G. F., 226
Ricker, H. F., 1110‡
Robertson, James T., 368, 418\*
Robertson, William, 1091
Robinson, J. F., 180
Robinson, William M., 1168‡
Rowe, Burton J., 1218‡, 1265

Rowe, J. L., 1492 Rudech, Matthew L., 449 Ruffu, Anthony M., Jr., 1548-D101 Rupert, Lyle H., 1449‡

Safford, James B., 368‡
Sague, James E., 1210‡
Sartelle, John C., 459, 807
Schaperkotter, James F., 368‡
Schutt, H. H., 948
Selden, Charles, 1168‡
Shafer, George Smith, 418, 460‡
Shand, A. C., 628-D116
Smith, Alexander A., 1614
Smith, Alexander A., 1614
Smith, Horace F., 460°, 700
Snyder, Henry C., 1614‡
Somerville B. V., 1502
Sperry, Elmer A., 1489°, 1454-D11
Spindler, O. F., 808
Sprong, Jesse White, 182, 368‡
Stanfiel, J. H., 712, 850
Steward, Robert Bruce, 1261
Stone, Clarence E., 850‡
Stockard, S. A., 808‡
Strickland, Samuel George, 500, 582‡
Stubbs, Linton W., 500‡ Safford, James B.,

Taylor, John G., 712‡ Thompson, Clifton S., 712‡ Thompson, D. P., 788\*, 891 Thompson, M. E., 899 Trautman, Fred E., 1454

Udell, C. B., 14042

Van Schoyek, N. J., 1110, 1403

Wahle, Joseph P., 368
Wallace, Ralph H., 900\*
Warner, Samuel G., 670‡
Wathen, Major Benjamin S., 226‡
Welsh, Maurice A., 368
Weymouth, A. E., 950
Whittelsey, T. F., 1614
Whittelsey, T. F., 1614
Whittney, Albert W., 850, 1109
Whitney, William A., 1006‡
Whittenore, E. L., 360
Wilson, W. S., 628
Wolverton, I. M., 267
Wood, Frank L., 418‡
Wood, Pierre O., 582, 900
Wyman, R. L., 417

# RAILWAY CONSTRUCTION

Abilene & Eastern, 410, 1262 Abilene & Southern, 845 Albany Port District Commission, 1399 Algoma Central & Hudson Bay, 1450 Ann Arbor, 892 Atchison, Topeka & Santa Fe, 219, 410, 665, 845, 1092, 1157, 1202, 1262, 1346, 1399, 1450 Atlantic Coast Line, 361

Baltimore, Md., 1493
Baltimore & Ohio, 892, 941, 991, 1262, 1399, 1450, 1492
Baltimore & Ohio Chicago Terminal, 219
Bangor & Aroostook, 177, 410, 1346
Beaver, Meade & Englewood, 1211, 1450

Bessemer & Lake Erie, 1157 Boston & Albany, 177, 789, 991 Boston & Maine, 269, 892, 991, 1211 Bridge, Mexican, Across Panuco river, 269 Buffalo, Rochester & Pittsburgh, 707

Canadian National, 177, 219, 220, 269, 361, 410<sub>4</sub>
577, 618, 665, 707, 789, 892, 941, 991, 1092,
1346, 1611
Canadian Pacific, 177, 269, 361, 496, 577, 892,
1157, 1211, 1492
Central of Georgia, 1450
Chesapeake & Ohio, 219, 269, 577, 789, 845, 941,
1092, 1262, 1399, 1611

Chicago & North Western, 361, 455, 577, 665, 789, 845, 892, 941, 1262, 1450
Chicago, Burlington & Quincy, 892, 1262, 1399
Chicago, Milwaukee, St. Paul & Pacific, 618, 665, 707, 845, 941, 991, 1092, 1211, 1450
Chicago, Rock Island & Gulf, 177
Chicago, Rock Island & Pacific, 269, 410, 455, 496, 577, 618, 665, 707, 941, 991, 992, 1092, 1262, 1346, 1450, 1492
Chicago, St. Paul, Minneapolis & Omaha, 1346
Chicago, South Shore & South Bend, 1211
Cincinnati, New Orleans & Texas Pacific (See Southern)
Cincinnati Union Terminal, 577, 666, 845, 1211, 1399

City of Little Rock, 845 City of Montreal, 269 Cleveland, Cincinnati, Chicago & St. Louis, 496, 1346 Corpus Christi, San Angelo & Roswell, 1347

Dayton & Union, 269, 1211 Delaware & Hudson, 177, 269, 410, 455, 666, 845, 992, 1092, 1399 Delaware, Lackawann, & Western, 177, 577, 707, 992, 1092, 1157

Elgin, Joliet & Eastern, 577, 666, 1450 Elizabeth Southern, 219 Erie, 177, 410, 496, 707, 789, 845, 1157, 1262, 1347, 1399, 1493, 1611 Esquimalt & Nanaimo, 789

Genesee & Wyoming, 666 Grand Trunk Western, 219, 992 Graysonia, Nashville & Ashdown, 269 Great Northern, 666, 707, 845, 941, 992 Gulf & West Texas, 219, 269 Gulf Coast Lines, 219, 455, 618 Gulf, Colorado & Santa Fe, 219, 496, 1211

Hocking Valley, 410

Illinois Central, 410, 618, 1399 Illinois Department of Public Works, 846 Illinois Terminal, 455, 1493 Iowa & St. Louis, 1262

Kansas City Southern, 577 Kansas City Terminal, 219 Kentucky & Indiana Terminal, 707, 1347

Lehigh Valley, 177, 455, 1157, 1211, 1347, 1611 Long Island, 219, 941 Longview, Portland & Northern, 992 Louisville & Nashville, 269, 577, 1399, 1611

Maine Central, 219, 1399 Mexican Bridge Across Panuco river, 269 Mexico, 1347 Missouri-Kansas-Texas, 1211 Missouri Pacific, 219, 618, 619, 845, 893, 1211, 1252, 1399

National of Mexico, 789, 845, 1211
Newfoundland, 269
New York Central, 177, 219, 361, 410, 619, 666, 708, 789, 893, 941, 1157, 1262, 1346, 1399, 1450, 1493, 1611
New York, Chicago & St. Louis, 577, 941, 992, 1157
New York, New Haven & Hartford, 219, 455, 708, 845, 893, 1262, 1450
New York, Ontario & Western, 666, 1347
New York, Westchester & Boston, 1157
Norfolk & Western, 177, 361, 893, 1092
Northern Alberta, 992
Northern Pacific, 411, 619

Oklahoma City-Ada-Atoka, 220 Oregon Electric, 789, 1092, 1158 Oregon-Washington Railroad & Navigation Company, 1262, 1611 Ozark & Philpott Valley, 1157

Pacific Great Eastern, 1158, 1399
Pennsylvania, 177, 220, 455, 496, 619, 666, 845, 892, 941, 992, 1158, 1262, 1347, 1399, 1493
Pere Marquette, 361, 456, 666, 1611
Pittsburgh & Lake Erie, 992, 1450
Pittsburgh & West Virginia, 496, 666, 1211, 1450
Portland Terminal Company, 361
Province of Quebec, 577

Quanah, Acme & Pacific, 411

Richmond, Fredericksburg & Potomac, 578, 992 Rutland, 269, 1158

Sabine Basin. 269
Sacramento Northern, 411, 1347
St. Louis, Brownsville & Mexico (See Gulf Coast Lines)
St. Louis, Mo., 220
St. Louis-San Francisco, 220, 361, 411, 619, 845, 893, 992, 1262, 1347, 1450, 1492
St. Louis Southwestern, 220, 456, 708, 1347, 1450
Seaboard Air Line, 666
Southern, 708, 1158, 1493
Southern Pacific, 220, 496, 845, 893, 992, 1211, 1399
Southern Pacific of Mexico, 1092
Spokane, Portland & Seattle, 1158, 1262
Sprucemont Nevada, 578

Temiskaming & Northern Ontario, 220, 411, 578 Terminal Railroad Association of St. Louis, 619, 1450 1450
Texas & Pacific, 220, 361, 496, 789, 845, 1092, 1158
Texas City Terminal, 578
Texas-New Mexico (See Texas & Pacific)
Texas Short Line, 456, 893
Timber Products Railway Company, 1262
Tulsa Union Depot Company, 845, 992, 1092

Ulster & Delaware, 1493 Union Pacific, 220, 411, 619, 666, 845, 893, 992, 1611

Virginian, 1493 Virginian & Western, 1450

Wabash, 618, 708, 846, 893, 941, 1492 Western Pacific, 496, 666, 789, 941 Western Pacific California, 578

Yankton, Norfolk & Southern, 992 Yates & West Texas, 220

# FINANCIAL NEWS

Akron, Canton & Youngstown, 578, 1158, 1262
Alabama Great Southern, 942
Allegheny Corporation, 666, 942
Alton & Eastern, 846
Ann Arbor, 800
Aransas Harbor Terminal, 1612
Arkansas Short Line, 1347
Aroostook Valley, 1211
Atchison, Topeka & Santa Fe, 666, 846, 1158, 1211
Atlantic City, 1347
Atlantic Coast Line, 361, 1347, 1493

Atlantic Coast Line, 361, 1347, 1493

Baltimore & Ohio, 270, 361, 411, 578, 619, 666, 800, 1158, 1262, 1451

Bangor & Aroostook, 800

Batesville Southwestern, 1158

Beauharnois Railway, 456

Beaver, Meade & Englewood, 362

Pelt Railway of Chicago, 800, 893

Bennettsville & Cheraw, 178

Bessemer & Lake Erie, 942

Boston & Maine, 578, 800, 846, 993, 1158, 1347, 1612

Brattleboro & Whitehall, 456

Brimstone Railroad & Canal Company, 846

Bristol, 456

Buffalo & Susquehanna, 893

Buffalo, Rochester & Pittsburgh, 619

Buffalo, Rochester & Pittsburgh, 619

Canadian National, 362, 942, 1400, 1451
Canadian Pacific, 456, 496, 619, 846, 1211
Cape Fear Railways, Inc., 1262
Carolina, Clinchfield & Ohio, 1158
Carrollton Railroad, 220
Central of Georgia, 805
Central of New Jersey, 411, 496, 578
Central Vermont, 270, 411, 942, 1158, 1262
Chesapeake & Ohio, 220, 362, 411, 894, 942, 993, 1215, 1347, 1493, 1612
Chicago & Alton, 1158, 1400, 1612
Chicago & Eastern Illinois, 805, 847, 942
Chicago & Western, 496, 942, 1093, 1158, 1493, 1612
Chicago & Western Indiana, 411, 894
Chicago, Burlington & Quincy, 178
Chicago, Indianapolis & Louisville, 178, 847, 1400, 1612
Chicago, Milwaukee, St. Paul & Pacific, 270, 362,

Chicago Great Western, 847, 993
Chicago, Indianapolis & Louisville, 178, 847, 1400, 1612
Chicago, Milwaukee, St. Paul & Pacific, 270, 362, 496, 578, 667, 708, 305, 847, 894, 993, 1158, 1215
Chicago, Rock Island & Gulf, 708
Chicago, Rock Island & Pacific, 578, 847, 894, 942, 1158, 1215, 1263, 1347, 1400, 1493, 1612
Chicago, St. Paul, Minneapolis & Omaha, 667, 708, 942, 1093, 1159, 1215, 1612
Chicago, Stringfield & St. Louis, 362
Chicora & Northwestern, 1400
Cincinnati, Hamilton & Dayton, 411
Cleveland, Cincinnati, Chicago & St. Louis, 1493
Cleveland Union Terminals, 220, 619, 805
Colorado & Southern, 270, 708, 1451, 1612
Colorado & Wyoming, 805

Delaware & Hudson, 270, 943, 993, 1093, 1159, Delaware & Northern, 667, 805
Delaware, Lackawanna & Western, 270, 456, 496
Denver & Rio Grande Western, 411, 579, 895, 1159, 1263, 1347, 1352, 1451, 1493, 1500
Denver & Salt Lake, 270, 993, 1352
Detroit & Mackinac, 805
Detroit, Toledo & Ironton, 667, 1158
Duluth & Iron Range, 1093
Duluth, Missabe & Northern, 1216

Elgin, Joliet & Eastern, 805 Erie, 178, 270, 496, 619, 805, 847, 895, 943, 1400 Erie & Michigan Railway & Navigation, 1093 Ettrick, 993

Florida Central, 497 Florida Central & Gulf, 1400 Florida East Coast, 805, 993 Fort Worth & Denver City, 1216

Georgia & Florida, 806, 1352, 1451
Georgia Southern & Florida, 943
Georgia, Southwestern & Gulf, 1451
Grand Trunk Western, 667, 993, 1159
Great Northern, 178, 847, 943, 1216, 1263, 1400, 1451
Great Northern Pacific, 619, 895
Gulf, Beaumont & Great Northern, 806, 1159
Gulf Coast Lines, 847
Gulf, Mobile & Northern, 993, 1400, 1451, 1500
Gulf, Texas & Western, 1263

Hocking Valley, 667, 708

Illinois Central, 943 Illinois Terminal Company, 895, 1400, 1451 Intermountain, 1003 International-Great Northern, 1352 International Railways of Central America, 1216,

Jacksonville & Havana, 412 Jacksonville, Gainesville & Gulf, 412, 619 Jamestown, Westfield & New York, 497

Kahului, 1352 Kansas City Southern, 806, 895, 1159 Kansas, Oklahoma & Gulf, 178 Kaydeross, 1400 Kentucky & Indiana Terminal, 362, 579

Leavenworth & Topeka, 1612
Lehigh & New England, 1216
Lehigh Valley, 579
Long Island, 178, 1003, 1093, 1159, 1452
Louisiana & Arkansas, 178, 497, 619, 847, 1003, 1263
Louisiana, Arkansas & Texas, 1612
Louisiana Railway & Navigation Company, 667, 847
Louisiana Railway & Navigation of Texas, 362 847 Louisiana Railway & Navigation of Texas, 362 Louisville & Nashville, 362, 456, 581, 1093, 1612

Maine Central, 624, 667, 943, 1093, 1159, 1263
Meridian & Bigbee River, 178, 667, 1159
Midland Valley, 456
Mineral Point & Northern, 362
Minneral Range, 456, 806
Minneapolis & St. Louis, 581, 1352
Minneapolis, Anoka & Cuyuna Range, 1400
Minneapolis, St. Paul & Sault Ste. Marie, 220, 806
Mississippi Southern, 178
Missouri-Kansas-Texas, 1003, 1263
Missouri-Pacific, 497, 581, 624, 708, 847, 895, 943, 1159, 1216, 1352, 1452
Mobile & Ohio, 895
Montour, 581
Murfreesboro-Nashville Southwestern, 895

Murireesboro-Nashville Southwestern, 895

Nashville, Chattanooga & St. Louis, 497, 895, 1093
National of Mexico, 895
New Orleans Great Northern, 667, 1003
New York & Harlem, 1263
New York Central, 220, 270, 412, 456, 457, 497, 667, 708, 806, 895, 1216, 1263, 1352, 1400, 1452, 1500, 1612
New York, Chicago & St. Louis, 806, 943, 1003, 1263, 1400
New York, New Haven & Hartford, 220, 270, 667, 943, 1003, 1216
New York, Ontario & Western, 895
New York, Ontario & Western, 1105
Norfolk & Western, 362
Norfolk Southern, 1003
Northern Pacific, 178
Northwestern Pacific, 497

Oklahoma City-Ada-Atoka, 221, 457 Oklahoma-Southwestern, 178 Oregon Electric, 1004 Oregon-Washington Railroad & Navigation, 178, 1352 Orange & North Western-Texas & New Orleans, 667

Panhandle & Santa Fe, 457, 1107
Pennsylvania, 221, 362, 412, 457, 497, 624, 667, 708, 848, 898, 943, 947, 1004, 1107, 1352, 1400, 1452, 1500
Peoria & Eastern, 497
Pere Marquette, 581, 708, 947, 1004, 1159, 1216, 1263, 1452, 1612
Pittsburgh & Lake Erie, 1612
Pittsburgh & West Virginia, 178, 412, 624, 711, 898, 1107
Port Angeles Western, 178
Pueblo Union Depot & Railroad Company, 497

Quanah, Acme & Pacific, 412

Rahway Valley Line, 1452 Reading, 624, 711, 898, 947, 1159, 1216, 1352, 1400, 1500 Reading, Marietta & Hanover, 178 Richmond, Fredericksburg & Potomac, 1105 Rutland, 667, 1263

# FINANCIAL NEWS-Continued

Sabine Basin, 362, 412
St. Louis & O'Fallon, 668, 1159
St. Louis-San Francisco, 362, 624, 668, 711, 806, 1004, 1216, 1352
St. Louis Southwestern, 178, 270, 1166, 1613
Salt Lake Union Depot, 848
Savannah & Atlanta, 1500
Seaboard Air Line, 221, 497, 667, 1352, 1452, 1500
Sewell Valley, 362
Southern, 806, 1452, 1500
Southern Pacific, 178, 898, 947, 1004, 1108, 1166, 1217, 1264, 1452, 1613
Sumpter Valley, 497

Temiskaming & Northern Ontario, 221 Tennessee & North Carolina, 1400, 1500 Tennessee Central, 624, 1004 Terminal Railroad Association of St. Louis, 1108 Texas & Pacific, 898, 1108, 1166 Texas-Mexican, 362, 412 Toledo, Peoria & Western, 624 Toledo Terminal, 1500

Union Pacific, 497

Virginian, 711, 806, 898, 947, 1108

Wabash, 178, 221, 457, 711, 806, 898, 1108, 1166, 1217, 1264
Waco, Beaumont, Trinity & Sabine, 362, 457
West Jersey & Seashore, 947
Western Maryland, 1264
Western Pacific, 362
Wheeling & Lake Erie, 363, 848, 1166, 1264, 1400, 1452
White River, 1264
Winchester & Wardensville, 1217

Transcription of transcription, 1017

Yazoo & Mississippi Valley, 363, 457

